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Dentistry Is Not So Bad

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The President of Bolivia, one of the small countries on the western coast of South America, made the statement that he could not get the natives to work for the reason that their wants were so few. The soil was very fertile, almost anything would grow without any effort at cultivation, and the mild climate necessitated little clothing, a breech-cloth being sufficient. But if he could get the North American and European people to settle in his country, he might create in the minds of the natives, by contact with the more cultivated and refined people, a *desire* for their conveniences and luxuries and thereby develop in his people some of the industry of the more progressive races. It is these innumerable, unsatiated *desires* that enslave us from infancy to old age. Without them we should be like the Bolivian native, indolent and non-progressive. An unsatiated *desire* keeps us constantly in pursuit, diligently and industriously occupied.

The American opportunity changes vocations each generation. The laborer's son is a craftsman, the craftsman's son is a manufacturer, and the manufacturer's son is a scientist. It creates in us new *desires,* as well as different standards of living, which in turn necessitate an increase in income. The physician, lawyer or dentist, whose father was perhaps a railway engineer, cannot with his contact live on the income of his father, let alone maintain a savings account. But the dentist, with his refined and cultured contact, is placed in a different position from that of the lawyer or physician when it comes to earning a competence conducive to maintaining the standard of living that his association really demands. So recently has his profession been raised from a mere trade plied by ignorant and uneducated men to the high standard of professional dignity that it cannot live down overnight the erroneous economic practices which the public are accustomed to expect from these men. The public has not been sufficiently enlightened to accept it as a highly skilled branch of the medical art and a true adjunct to the maintenance of health, while the age-long customs of other professions are practically fixed in the public's mind.

Then, again, the technic for many of the operations has so lengthened in late years, without commensurate increase of fee, that it makes it diffi-

cult for the young practitioner to maintain an economic balance. It would be practice-building suicide simply to raise fees arbitrarily, as advocated by some dental economists, without at least a brief and understandable description to patients of this improved service and its benefits compared with the older method.

Now we as dentists have a service to sell of which the beneficence to humanity cannot be questioned. And since the conditions before mentioned exist, it is expedient that we resort to methods to sell this service at a price that will keep our own budget from going below health and decency. After many sleepless nights and a general survey of other professions and businesses, including an inventory of ourselves, we were able to evolve a plan which has worked out in our own practice, and which we are sure, if effectively applied, will double the gross of any practice without an increased loss of patients.

In brief, it amounts to this—we have a service to sell, the importance of which the patients know little, and unless we make them conversant with it and then create a *desire* in their minds and make that *desire* supersede all others, they will not purchase that service.

Now the average person in the United States has some money each month that he dispenses to the butcher, the baker, or the automobile-maker, and gives it to the one whose service or product he most desires, though the others may have to wait. Since we must be either victims or beneficiaries, we don't "choose" to be victims and must try to make our service the most desired.

Now, as an illustration, let us assume that Dr. Jones is conducting a general practice. Patients present themselves for filling, cleaning, extraction, plate- or bridgework, all of which he does of the average run-of-mine type. Dr. Jones has been in practice for fifteen years and always has worked rather hard; he has a modest home, but a family of four with American ideals and a wife who always gives him inspiration in two words, "Charge it." Dr. Jones sees, as his family grows, the necessity of a larger income, but since he located in the town, two additional young dentists also have started to practice there. Dr. Jones is beginning to note that patients are fickle and change dentists frequently; some of his patients are going to the younger dentists, with the result that he frequently has an open afternoon appointment. Consequently his income instead of increasing is decreasing. Wednesday afternoon between one and three o'clock he has no appointment, so he sits down at his desk and muses, "Dentistry is rotten. Why didn't I take some other profession—law or medicine?" Now let us see whether it is he or dentistry that is "rotten." The door bell rings and Dr. Jones goes in person to the reception room. A lady is there.

"Dr. Jones, I presume?"

"Yes."

"I am Mrs. Van Dusen and I have bitten out a filling, and my neighbor, Mrs. Morris, advised me to come to you. She said that you are her dentist. When could you give me an appointment?"

Well, Dr. Jones doesn't want her to know that he is not busy, so he makes an appointment two days ahead. On the appointed day and hour she is seated in the chair, and after a general survey of her mouth Dr. Jones finds that Mrs. Van Dusen has tried to take care of her teeth. Her mouth shows that she has followed religiously, as best she knew how, the laws of oral hygiene. And upon examination he finds that all her posterior teeth are filled on three surfaces with amalgam, and an approximal occlusal amalgam filling in the lower second bicuspid has failed. While he is putting a bur in the handpiece, Mrs. Van Dusen volunteers the information, "Doctor, you know I just want to do everything possible to save my teeth. I have a perfect horror of false teeth." Just that one remark opened the vault of a chest of gold that she would willingly give. But Dr. Jones has the usual leaded glasses that focus on nothing but amalgam, so he inserts the amalgam filling, charges her $4.00 and dismisses her with the usual instructions and the assurance that she would have her teeth for a good while yet. Mrs. Van Dusen was a woman of approximately thirty-five years of age. Her posterior teeth were all filled, approximal and occlusal surfaces, with amalgam. She had three pulpless six-year molars, and her teeth were out of balance and producing occlusal trauma. The amalgam fillings were inserted before the advent of the silver nitrate reduction method of sterilizing dentin, and recurrent decay was present under probably all of them. They had ragged margins and poor contact points. The pulpless teeth were black and unsightly, as well as pathogenically a health hazard, and should have been removed.

The author would have received an entirely different vision. In the first place he would have seen that the lady wanted dental service, for that was the purpose of her visit. He would have seen that she was particularly anxious to preserve her teeth, and with that attitude, plus his service based on the law of averages, he could help her retain them at least fifteen years longer than they could be kept in their present condition. He would have seen that her occlusion was out of balance and should be corrected to preserve the supporting tissues, and that all those unsightly deceptive amalgam fillings with the recurrent decay under them should be removed. He would have visualized the sterilization of the dentin and the lining of the cavities with cement, so that ideal preparations of the slice type could be made for the reception of M. O. D. gold inlays that would restore the contact points. It would have been evident to him that the pulpless teeth should be removed and porcelain-tipped pontics supplied. In other words, he would have seen $400.00

worth of service where Dr. Jones saw but $4.00 and would have rendered the patient a real professional service, as well as helping himself.

Perhaps you may say, "How could he get her to acquiesce to an operation to that extent?" Well, in the first place the necessity of it would force us to try as a professional duty, and we would take the clergyman's view—*that we were morally obligated to create in that lady's mind a desire to have it done*—realizing that it would increase both her health and her happiness, two invaluable things that cannot be measured by dollars and cents.

We would not go about it in an abrupt manner, as temperaments vary. We might even go to the extent of inserting an amalgam filling, though we intended to take it out later. But during that time we would invite conversation along diversified subjects in order to get a line on her trend of thought. Especially would we lead up to those things of value to her sex, the niceties in a woman's sphere, such as clothes, finery, and automobiles, as they are compared most easily.

If she manifested an interest in clothes, fur coats, or diamonds, it would be easy for us to show the very transient pleasure experienced from these as compared to the cost. And automobiles—there are few Americans that do not have them—would afford us the most convenient lever, as there are no common commodities in which one can show so much dissipation or waste of value as is seen in the motor car. If her taste or wealth showed her to be in the expensive-car class, then inducement to the expenditure for this operation would not enter into the subject. But if she were in the cheap-car class, it would not be so difficult to show her that, with the expenditure of $800.00 for a car in addition to the running expense for repairs, gas, oil and tires for her pleasure, she would lose $300.00 the first year in depreciation and in four years the eight-hundred-dollar car would bring in the market no more than junk. Yet, if she were to spend one-half that sum ($400.00) on her teeth, she would have the satisfaction of their use every day in the mastication of her food plus the maintenance of health. But what might mean more to her would be the preservation of her facial contour and youthful expression, which to most women is invaluable and cannot be measured by money.

Of course, it would be impossible to lay down any hard and fast rule because of the temperamental complex we encounter in different patients. But if your bills are pushing you hard enough, "you'd be surprised" how quickly you acquire the tact of adaptability to this "complex" of your patient and extemporaneously evolve a method not only to create but to magnify this *desire* to purchase this service that you have to sell, and that patients by all means should have.

Now, if this patient had presented herself for prosthetic instead of operative service and said, "Doctor, I need a new set of teeth or a

partial plate," the opportunity would have been tripled. But probably, judging from his operative effort, he would have made his replacement of a partial or full restoration with vulcanite and of the run-of-mine type. We would immediately visualize the scientific type not only in vulcanite but in gold, metal or platinum base with attachment of continuous gum, keeping in mind at all times that vulcanite is a porous material of vegetable composition and, when worn in the mouth any length of time, becomes filthy and positively repulsive and is fit only as a temporary supply. With this fact we are always sure to acquaint the patient.

The three salient points to emphasize in selling prosthetic dentistry are: *hygiene, masticatory efficiency, and esthetics.* You can build your argument so convincingly around any of these three points that you are sure to create the *desire.*

One of the greatest deterring factors with too many dentists is that they are financially so hard pressed themselves that they seem to impart it telepathically to their patient, so that instead of creating a feeling of well-being and future prosperity they create a vision of the wolf. Yet when the real facts are known, the patient is in much better circumstances and has a much brighter financial future than the dentist himself. You must not be concerned too much about the patient's other needs, as the fellow who sells them will look after that. The patient who cannot afford a jacket crown this month is frequently seen in new furs the next month or driving a new car. America, remember, is different.

All of the foregoing statements are not theoretical deductions, but facts from experience and actually worked out in a town of less than 5,000, where 98% of the population are wage-earners. Only three families are worth more than a hundred thousand dollars, and *they all have good teeth.*

Twelve years ago a minimum fee of $125.00 was set and obtained for full upper and lower vulcanite dentures when there were 160 dentists within the radius of twenty miles making a run-of-mine type for $30.00 and $40.00. When a fee of $1,500.00 was obtained, they thought the dentures were sold to an insane patient, when, if the facts were known, it was a highly intelligent patient, one who had traveled extensively and knew and wanted the nice things in life. Two years later the patient returned to our office and was sold an "extra tire," so that in case of accident or loss, while in bathing at Palm Beach, it would save embarrassment. The reason our colleagues could not see this fee was that they were accustomed to visualize but one grade of service and one material.

Of course, you must be able to produce the service, for overselling is as fatal as overcharging. You must give valuable service when you sell so that your patient will not be disappointed in what you have had

him visualize, for promises that do not materialize are *not* practice-builders.

The dentist who does not show a disposition to equip himself to the extent of a feeling of security in the performance of any of the operations mentioned above is of course limited and cannot expect to compete in the demand for services that are diversified. But to those who do, the writer would suggest the following—learn to take an impression, either full or partial so that when the model is finished (it matters not whether it is for vulcanite, gold, or continuous gum), you will feel secure in the thought that it will fit. Learn to take jaw relations. Do not depend on anything but the Gothic arch for centric occlusion. Use an adaptable instrument so that you can conform to the patients' habits, and they will have less discomfort from the start and fewer new tricks to learn. Learn as much as possible about balanced occlusion and apply it. Study esthetics and always stress it in practice. In the prosthetic work it is without doubt the best "advertiser."

Adopt a definite technic for gold inlay work and develop it as nearly perfect as possible, so that your failures will be less than one per cent. Do not start with the wax pattern or high-heat method, for there is too much uncertainty about wax for impressions. And the degree of heat about 350 that causes distortion of the mould in investments cannot be definitely fixed. Wax patterns are also too difficult to carve in remote or inaccessible cavities.

Use the modeling compound technic with the low-heat burning-out method. Use the duplex method of casting your M.O.D.'s, and they will go to place and fit and require much less time. The modeling compound technic with the non-metallic model is the most simple and most certain and affords the patient the least discomfort with average skill; it can be applied in any type of cavity. This is not true of the wax-impression-pattern method or the high-heat. The centrifugal machine is the most certain in casting cold—this is irrefutable. In your search for improvement do not depend too much on clinics at society meetings or conventions. There is too much camouflage and will be until there is a censorship created for this part of the society's program.

Select a good laboratory, as it is economically essential and indispensable to any dentist. Evade the cheap laboratories, as they are expensive. Do not let distance or time enter into this. When a case is sent out, forget it, get busy and sell another so that you will have cases coming through all the time. Make your models and set your jaw relation yourself, thus eliminating the possibility of guesswork. Out of a hundred cases the writer has not had to return one single completed case in four years.

Dentistry does not offer the financial returns that are possible in other professions, especially medicine or law. But it does offer a return

conducive to a healthful and decent living if you will desist from giving patients what they ask for instead of what they need.

In either the commercial or the professional line, no matter what you have in store, no matter how proficient you are or how great your ability, if you cannot convert it into or exchange it for life's necessities, if you cannot sell it, you are in the eyes of the public, and often in the eyes of your own family, "mediocre," if not a rank failure.

[PROFESSIONAL REWARDS]

It is never expected that the merchant will hand out commodities to people for nothing, no matter how poor they may be. No one looks for such a thing, and yet the world accepts the fact quite naturally that professional men must minister to the needs of suffering humanity regardless of their ability to pay; and in the case of the very poor, it is taken for granted that the service is rendered for nothing. Whether this attitude of mind, and the practical application of it, is just to the professional man or not, the fact remains that it is established by tradition and that this tradition has given to professional men a status in the estimate of the world which has placed them in a class by themselves.

—C. N. JOHNSON.

C. EDMUND KELLS, D.D.S.

C. Edmund Kells, D.D.S.

1856—1928

A gallant warrior sleeps on his arms. On May 7th Dr. Kells paid the last great installment in the heavy toll which his devotion to scientific research had laid upon him.

When the x-ray machine was offered to medical science, his keen mind seized upon it as a wonderful agent in perfecting diagnosis. He obtained the first to be used in dentistry. To familiarize himself with its possibilities, he spent many hours radiographing different objects. In those days the only method of testing the efficiency of the tube was by the penetration of the rays through the hand. Nothing was known of the tissue-destroying effect of the rays. He made hundreds of experiments, using his left hand for testing for each. Many years later the tissues began to break down. The deterioration was progressive and he sustained more than forty operations. Then his system could stand no more.

At his request I went with him to the last interview, in which a great authority pronounced his condition hopeless. As we came away, he said, "I knew it. I have known it in my heart for a long time." His regrets were entirely for his loved ones at home and for the profession which he loved only a little less, and for which he wished to do more. After his last severe operation in New York his great desire was to live long enough to be of further service to the younger men.

He was industrious to a degree not common among us today. For many years he frequently reached his office at 7:30 in the morning and remained until six at night. He introduced sound economic principles into his practice when they were practically unknown in the professions, and when all his friends predicted ruin. He gave liberally from his earnings to the profession and to public and private charities. After the loss of his left arm he devised special instruments and continued to operate until very recently.

As I think back over my association with him, he seems to me like a knight clad in the shining armor of a flawless personal character, a warm and loving heart, charming address and unwavering courage. The fact that he had never been robust and was slight in stature never entered his consideration when he felt called upon to address his pen as a lance and ride against something he thought to be wrong. Probably all of us accepted his ideals, though not all of us concurred in his ideas.

Of him more than of most men whom I have known are true the words another warrior of little stature but great soul wrote to "his son in the faith" near the end of his career: "I have fought a good fight, I have kept the faith, I have finished my course."

George Wood Clapp.

Problems of Research*

By George K. Burgess, Washington, D. C.
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The American dental profession has long been recognized throughout the world as preeminent. This outstanding position is due in no small measure to the excellence of our dental schools with their high standards of instruction, accompanied by the pride of accomplishment on the part of the members of the profession both within and without the schools. The profession in this country has also been fortunate in having not a few manufacturing concerns who have ever been eager and able to advance the dental arts by improvements in materials, processes and instruments. If, on occasion, there is too much emphasis placed on brand and proprietary product or process, this is a phase of development common to many branches of industry in the earlier stages, but it always gives way as the demand grows for exact knowledge on the part of the user.

Research and Standardization

Research and standardization are coming more and more to be recognized consciously as the basis for improvement, and there never was a time of greater activity in both these fields than now. This is true of the sciences underlying dentistry as well as of their manifold applications to the dental art, which may be considered to be really a branch or a combination of branches of engineering.

As summarized by Dr. E. C. Kirk, the rapid advances in the past twenty years have been along the general lines of vital and hygienic relations accompanied by similar developments in technical and engineering features. Over a score of years ago I had the pleasure of hearing Dr. W. D. Miller, an American, resident and professor in Berlin, when on a visit to Washington, lecture on the *Human Mouth, a Focus of Infection.* On a layman this lecture made a great impression, and I gather that the work of Miller and his successors has made a lasting and beneficial impression on the dental profession also.

The development of x-ray technic strikes the layman as perhaps the greatest contribution of physics to dentistry, largely as an outcome of the researches on septic foci by Sir William Hunter.

Not only are professors in our schools, practising dentists and manufacturing firms engaged in research, but governments also are helping. I was interested to note the other day that the British Government supports at the National Physical Laboratory, an institution similar to our Bureau of Standards, a modest dental research program involving

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a sum of less than $5,000 a year covering such subjects as silver-tin amalgams, plaster of Paris and other materials used for impressions and models, and the development of a new synthetic substitute for vulcanite as a material for dentures.

The American Government also, through its dental services for the Army and Navy, its Public Health Service, Veterans' Bureau, and the Bureau of Standards, has begun to take an ever increasing interest in dental problems—and very properly so, when we consider the economic advantage to the community of united effort to prevent disease, eliminate waste, and improve the health and well-being of the population. On the question of unnecessary loss of gold alone in dental practice I am told that this amounts to several millions a year. To prevent this waste, with the attendant loss of time, by concerted study of improvements in materials, technic and workmanship would seem worth while.

The Bureau of Standards, with its seventy or more scientific and technical sections, each concerned with a branch of physics, chemistry or engineering, is organized to help the profession and industries in matters relating to standards, specifications, testing and research. We have been able to do something for the dental profession, and we hope to be able to do much more. Our activities are limited to the physico-chemical and engineering aspects in the research field and embrace also the formulation of standards for materials and technic.

Requirements for a Standard

When the requirements for a satisfactory standard are known, it is in general not difficult to specify properties and tests which will guarantee these standard qualities, and, if it is possible to produce the commodity efficiently in compliance with these requirements, the Bureau's part in the development of the particular standard is completed. More often than otherwise the properties of a satisfactory standard are not known. Such instances require careful studies of the problems involved.

These studies must include the interests of the users and manufacturers of the commodity in question. In the dental problems there are at least three parties to be considered: the patient, the dentist and the manufacturer. When a satisfactory dental specification is written, it will include and safeguard these three interests.

Need for Amalgam Standard

The need for specifications for these materials was recognized by the Bureau in 1919 when we were asked to assist in selecting a satisfactory amalgam alloy for use by the Government. Ten alloys were offered. Each alloy was labeled as complying with the requirements

necessary for perfect amalgam restorations. However, tests showed five, or one-half of the series, to be defective by reason of permanent dimensional shrinkage. Since that date we know that one of these brands has been corrected and is, according to later tests, an expanding alloy. Last month we had to reject two alloys purchased by the United States Government for use in its dental work. Do I need to give further reason why the profession at large needs a specification and a certain amount of testing work done by the dental colleges in order that it may be sure of the value of its amalgam work? For a number of years we have wanted to make tests on amalgam failures which could not be explained by the faults of cavity preparation, improper occlusion or other recognized error of the operator. Dr. Souder tells me that he sees a way to do this, and, if we are successful, I am sure no further demonstration of these needs will be required.

Ideas of Standards

May I spend a minute to give you what are some of the ideas of standards that have come to our attention? Some time ago we received a package of dental investment with a request to test it to see if it was as good as another manufacturer's product. There was no request for the definite properties of the commodity, only a hope that the manufacturer had successfully imitated another product. We are constantly asked: "What is the best gold alloy?" Six different specifications have been suggested by the Government for at least six different types of restorations. No one alloy can possibly satisfy all these requirements. Until the needs of the individual case are analyzed and understood by the dentist, it is impossible to select with certainty a material suitable for use. I am not convinced by a statement that because a certain material has given satisfaction for fifteen years it is therefore the best, or that a certain method of melting an alloy makes it supreme. The qualities of excellence, if present, will be far more definite and convincing if given in numerical form under proper headings.

We find also occasionally slipshod methods being used in securing data on these materials. A recent attempt at making fatigue-flexure tests by a well-known manufacturer was entirely incorrect in its methods and actually showed materials in inverse order to their service value. The results were published and distributed for your use in the dental colleges. So far only one school official has called this error to our attention.

Research Facilities at the Bureau

Many organizations are taking advantage of the Bureau's facilities for cooperative research as authorized by Congress in 1892 and 1901. This authorization, although passed in 1892 before the Bureau was

organized, includes branches of the Government thereafter established. At the Bureau of Standards we call this activity our Research Associate work. The cooperating organization submits its problem, and if the Bureau's facilities are suited for its solution, and if it is judged of sufficient interest to the public, the research is approved and one or more research associates selected for the work. They work under the supervision of the Bureau and receive the fullest cooperation of our staff. The Bureau has charge of the publication of reports and finished papers. This arrangement has enabled us to do many researches which by reason of our limited personnel we should otherwise not have been able to do.

Recently we have completed such a cooperative research with the Weinstein Laboratory, extending over a period of six years, on the physical properties of the alloyed golds and related accessory materials now so necessary in your work. The subject has been studied in terms of architecture, mechanics, constructional engineering and metallurgy.

It is this type of program that we are now arranging on a modest scale with the American Dental Association, and which we believe will be of value to your educational programs and to the great army of individuals who share in the manufacture, application and use of dental commodities. The program involves $10,000 a year, one-half each from the Government and the Association, and includes, subject to revision, the following items:

1. Investigation of amalgams.
   (a) A survey of the alloys.
   (b) Effects of variations in technics.
   (c) Cooperation with institutions wishing to install testing equipment.
   (d) A specification for dental amalgam.

2. Problems in the inlay field.
   (a) Essential and desirable properties of alloys—their enhancement.
   (b) Properties presenting difficulties—possible methods to minimize.
   (c) Accessory materials and their effects on inlay castings.
   (d) Properties influencing service or failure of inlays.

3. Metallic partial denture restorations.
   (a) Compare cast and wrought bars, clasps, etc.
   (b) Chart essential properties for arches, bars, saddles, clasps, etc.
   (c) Study technics for making partial restorations.

4. Vulcanite and similar restorations.
   (a) Physical properties of vulcanite.
   (b) Physical properties of substitutes.
   (c) Distortions during vulcanization.
   (d) Attachment of metal bars, etc., to vulcanite.

Typical Dental Research

One's first contact with the type of research needed in the dental arts is not always convincing of its value. The variables must be so completely separated and dissected into elementary components, and it is sometimes difficult for those not trained in this type of work to grasp the plan and its relation to dentistry.

There is nothing especially thrilling about measuring the diameter of an indentation so small that it must be viewed through a microscope before it can be measured accurately. Making investment cylinders and crushing them is a messy operation. Measuring the length-changes of an investment during setting and burning out is time-consuming. Sending a lingual bar over mandrels until it breaks and is then worth only its scrap value may appear wasteful. An entire day is required to follow the length-changes of a setting amalgam. It is a tedious procedure to cast small alloy rods, without defects, say, 3 mm. in diameter and 100 mm. long, and then pull the rod until it breaks, measuring the elongations produced by the different loads. But when these tests are completed, one knows something about the materials under investigation. It is not difficult to record this information in exact language. Manipulative procedures simply grow from a study of these data. The realization that one is using the best material in the most effective way, and that the service from the restoration will be a maximum, will produce a thrill which is more real and more enduring than any other type of procedure.

Some Difficult Problems

I am aware of the fact that there are some problems which it may be impossible to solve completely. From what we have observed in the full denture field I am convinced that a 100% denture restoration exists in our imagination only. The shrinkage of castings has not been eliminated, but it has been successfully compensated. I see problems in your porcelain restorations, your selection of amalgam alloys, in the cements and in many recommended technics. The editing of papers offered for publication, to make them agree with established principles of metallurgy, physics and mechanics, offers a field for service. The eliminating of the promotion of fads and propaganda will always need careful attention.

I am not unmindful of the distressing conditions so often met in your daily experience, of the dangers from root-canal infections, of this choice path for hosts of bacteria, direct to the blood stream in regions so near vital centers, but let me ask a question. If one could make a satisfactory restoration when the cavity first appeared and eliminate all possibility of recurrent decay, failures and defective restorations, would there be so many infected canals? If half these failures could be prevented, would the effort be worth while? I cannot believe that the opportunity for advances in architectural and constructional dentistry has been exhausted.

Economic Aspects

Let us glance at the enormous economic possibilities attached to the work in which you are engaged. If we assume that only one-half of our population are receiving dental service, and that this service amounts to $10.00 a year, we have an item of over one-half billion dollars. Any discovery, selection of materials, or improved technic which will make the repair of a defective tooth twice as effective in length of service will mean an annual saving of $250,000,000—not a small item and not an impossible ideal, I am sure. We want to assist in this effort to improve the art of dental restoration.

Mass production is one of the charactertistics of our age, requiring well defined standards and specifications rigidly adhered to, based oftentimes on exhaustive research on the properties of the materials concerned and resulting in increased output of products of uniform grade and quality of lowered cost. Although the dental art is necessarily largely personal, nevertheless methods analogous to those of mass production are more and more being used in dental laboratories and, when skillfully applied, may be a boon to the dentist and his patient, but the further development of such methods will be based on progress in the fields of standardization and research.

Responsibility of Schools

If the profession is to profit from research, if the public is to be protected, and if the manufacturer using research in a correct manner is to be rewarded for his efforts, there will have to be effective cooperation on the part of the educational organization of the profession. If some one comes before your classes and gives incorrect data on materials, you must be in position to refute him. This can often be done by reference to a specification and in a most efficient and effective manner. When suitable specifications are written, we shall not expect to find included such ambiguous terms as: extra hard, very tough, double strength, high elasticity, a tooth-saver, softens in a flame, indorsed by Dr. Bunk, and the lists of mysterious qualities so often claimed. These

are often consoling descriptions, especially if one is ignorant of the fact that there are other and more precise terms available for describing true merit.

It would seem also that the dental schools should take an ever more advanced position with respect to research at the school, encouraging the staff to take on research problems and also making more adequate provision for advanced students to enter the research field of the profession. Those responsible for university and dental school administration should have impressed upon them the great benefits that will accrue to the community by the stimulation of research in dentistry and allied subjects. The layman has a vital interest in the progress of your profession, and his influence should also be enlisted to these ends.

In closing, I venture to express the hope that these views of a layman will be received by you in the spirit of cooperation in which they are offered.

[EXPERIMENTS IN EDUCATION]

Dental education has not yet passed the experimental stage, though some writers so state. All the facts as to what method in educational endeavor will bring the greatest happiness and comfort to our people, as far as health service is concerned, are not known, and therefore any method that has apparent value should be encouraged and not condemned. Time will determine whether it is founded on a true or a false hypothesis.

—MILLBERRY.

Considerations In the Diagnosis of Pain*

By V. H. Eman, D.D.S., Grand Rapids, Mich.

Pain is defined as a distressing affection or feeling due to functional derangement or organic injury. In a discussion of this subject it is most fitting that we open with a consideration of functional pain.

If, when examining a patient complaining of obscure facial pain, a dentist suspects the fact that he is dealing with a hysterical individual or one who is suffering from neurasthenia, it would be wise to consult a neurologist or an internist. However, sufficient pathology is often present to account for the symptoms, and the true diagnosis is not suspected until he is confronted with the difficult and embarrassing task of handling one of these cases postoperatively. The hopeful prognosis offered previous to operation becomes the chief talking point of certain of these individuals, and their advertising is not the type which might be termed advantageous to the unsuspecting dentist.

In the *hysterical* type, the patient may complain postoperatively of pain which does not correspond to the distribution of the fifth nerve or even of any sensory nerve. The pain may be limited to a certain spot or end at the exact mid-line of the half of the face and scalp. If the sensation of pain is tested by a pin-point, then the patient is quite apt to show analgesia on the side where he localizes the pain—a contradiction in itself to true neuralgia or neuritis of the fifth nerve. He likewise may show anesthesia on the affected side to the light touch of a wisp of cotton or at least feel it less prominently than on the normal side. Anesthetic conjunctiva on the same side and an anesthetic pharynx are also signs of hysteria and may be brought out in this condition. An exaggeration of all the symptoms, and the fact that these cases can be temporarily relieved by placebos, such as a hypodermic injection of sterile water, are also diagnostic. If one questions, affirmative answers will be found to inquiries regarding the existence of practically any ailment.

However, in the *neurasthenic* type, the patient complains of more or less definite symptoms, which may or may not be associated with hysterical symptoms. The neurasthenic will mention feeling tired in the morning and having headaches, which quite often are relieved as the day goes on. The headaches are often occipital and frontal and usually unilateral—confined to the side of the operative work, whatever that may happen to be—bridges, inlays, extractions, etc. Often the muscles of the face and the jaw will ache, this being particularly true in the woman at or near the menopause. This type of individual is

* Read before the Second District Dental Society, Jackson, Mich., April 4, 1928.

frequently the subject not only of needless oral surgery but of general surgery as well. The neurasthenic fatigues more easily than normally and generally lacks normal muscular tone of both the voluntary and the involuntary musculature.

The less conversation the operator enters into concerning the seriousness of the case or the difficulties involved during operative procedures, the less chance these types have of forming a "symptom complex" following the completion of their case.

It must be remembered in general that the pathology back of these hysterical conditions is largely a pathology of ideas, secondary in some instances to environmental situations which are too complex for the patient to solve. As a result the symptoms complained of are much easier to face than the actual thing which bothers them consciously or subconsciously.

In the organic type of pain we are dealing with an actuality, and we must treat the symptoms, find the cause and endeavor to eliminate it. The patient should be asked to localize, as nearly as possible, the area in which the pain is felt. Then the type of pain must be ascertained. Throbbing pain usually indicates an acutely abscessed condition with distention of the tissues and no drainage; sharp, darting pain is usually characteristic of nerve involvements; pain caused by a light touch points out a disturbance of the cutaneous nerves; if exertion of pressure is necessary to produce the pain, the lesion is deep-seated. In this way, by obtaining a thorough history, the case can usually be treated so as to bring about results. Blind treatment is usually worse than no treatment at all.

Postoperative pain is the most common and most distressing complication following the extraction of teeth. The prevention of undue postoperative reaction stamps the mark of public approval on the operator and does much toward the building of a better practice. Many of the embarrassing after-results incurred in minor oral surgery can be easily prevented by strict attention to detail. Ways have been found to eliminate pain caused during operation, but postoperative pain is at times beyond control. There is great individual reaction to pain. In some persons even the simplest type of extraction is followed by severe postoperative disturbances. In others the more formidable operations, such as removal of a deep impaction, are followed by very slight discomfort. The chief causes for after-pain are three: anesthetic, traumatic, septic.

In using local anesthetics attention must be given to the method of administration, the condition of syringe and needle, the tonicity of the solution and its concentration. The solution should be injected very slowly so that the tissue takes it up without causing death of some of the cells. It should be aseptic, isotonic and not higher than a 2%

concentration. There is usually less pain when the anesthetic is injected at some distance from the site of operation. This favors the conduction method, which should be employed especially in the mandible, where the more severe types of pain always occur.

Trauma might be termed the most important cause of postoperative pain. Direct injury to the tissues involved always results in a variable amount of cell deterioration. Aside from individual differences it is correct to assume that the degree of postoperative reaction is directly proportional to the amount of injury. Excessive pain may be caused by exposed alveolar process, jagged edges of splinters of bone, or dislodged filling materials. Care must be taken to see that the wound is in the best possible condition before the patient is dismissed. The rough bone must be smoothed down, loose particles of alveolus and foreign substances must be removed from the tooth socket, and an effort made to approximate the mucous membrane and cover all bone surfaces as completely as possible.

A condition of sepsis alone may be responsible for pain. Organisms may become dominant in the area of lowered resistance and produce marked inflammatory reactions. It is a revelation to find what asepsis will do to cut down after-pain, because as a rule it is the organisms that are introduced upon instruments or in the anesthetic which cause the reaction rather than the organisms existing in the mouth prior to the operation.

To treat postoperative pain successfully, care must be exercised to get at the source of the trouble. The lazy method of administering internal and hypodermic sedatives, without first studying the local conditions, is to be strictly discouraged. The wound must first be carefully examined to locate possible disturbances therein. See that jagged edges of the alveolar process are trimmed away, and that all spicules and larger fragments of bone which have been partly or completely detached from the periosteum are removed. Do not curette, unless you believe that pain is due to some definite irritant—it is a most pernicious and destructive habit when practiced blindly and is sure to bring on further complications. If the wound appears negative, look to adjacent tissues for the trouble. See that there is no carious tooth, dying pulp nor other pathologic condition which may be referring pain to the site of operation.

The typically painful postoperative condition presents inflammation and soreness at the site of extraction and is accompanied by severe neuralgic pain. Here the local application of sedative drugs is the specific means of relief. Isolate the painful wound from saliva, dry it with sterile sponges and cover the area with a drug which possesses sedative properties. I have found parathesin to be the most effective. This powder may be incorporated in a narrow strip of iodoform gauze

moistened with campho-phenique and gently placed in the socket. The dressing should sometimes be covered with a small plug of cotton to keep in the medicament and to exclude foreign substances. The dressing is removed in forty-eight hours, when it is usually found that pain will not return.

For internal medication, I have found pyramidon, antipyrin or amidopyrin (all three essentially the same) to be generally the most effective. These tablets may be given in five-grain doses to be repeated hourly for three to five hours as necessary. The drug has little or no effect upon the heart. In the severe types of neuralgias, when relief cannot be obtained by the ordinary anodynes, the following combination put up in capsule form will be found to give results:

Codein Sulphate .....gr. I
Phenacetin .....gr. II
Aspirin .....gr. III
Caffeine Citrate .....gr. ss
Sig: One capsule q 4 hrs. as necessary.

To avert expected swelling, cold is the only preventive. Its action is more beneficial when dry, in the form of an ice-bag. Cold has also a numbing or sedative effect that will give much relief in some cases. It is best used intermittently, twenty to thirty minutes in every hour.

Dry Socket is a term incorrectly and frequently attached to these painful postoperative alveoli. Many dentists diagnose every form of painful socket as dry socket. They curette mercilessly in the hope of producing a blood clot. Remember that a blood clot is not essential in the healing of bone, as is illustrated in the cicatrization of cysts and other exposed bone surfaces. The absence of blood, then, is not a signal for the curette, as is usually supposed. The treatment for these so-called *dry sockets* has just been outlined in the discussion of postoperative pain.

The true type of dry socket is not painful, but is merely a tooth socket which has failed to become obliterated. The chief complaint is that food is retained there and it is the source of bad taste and odor. The remedy for this condition consists in making incisions buccally and lingually, so that a flap may be thrown over the opening and sutured, completely covering over the cavity.

In order to review briefly the points stressed, let us follow through, as a typical example, a patient presenting for the removal of three infected adjacent teeth on the same side of the mandible. Under ordinary circumstances the extraction of three teeth should produce little after-pain but let us assume that the teeth have been non-vital for some years, and that one or more roots are exostosed. It will probably be necessary to remove a small section of the buccal plate to release the

ankylosed roots. This type of operation will naturally be followed by pain unless precaution is taken at this time. The mucous membrane should be dissected back from the gingival, slightly on the lingual and by a flap on the buccal, to avoid injury and laceration. After the extraction is accomplished, the operation is but half completed. The jagged alveolar projections are smoothed down and all spicules and large fragments of bone which have become partly or completely detached from the periosteum are removed. To leave a perfectly smooth alveolar ridge, a circular bone file made to fit a regular stone-mandrel may be employed to good advantage. This small wheel takes down the sharp and irritating bony projections quickly and perfectly and materially speeds the healing process. With a small angular curette any granulomatous tissue felt at the apical ends of the socket is carefully dissected away and removed. The wound is now irrigated with a weak chlorozone solution and generously painted with mercurochrome. A dressing is made by incorporating parathesin in a narrow strip of iodoform gauze, slightly moistened with camphor-phenique, and this is placed gently in the sockets. The mucous membrane is brought back into position and sutured with horsehair. The dressing is left for forty-eight hours, and irrigations are carried on for a few days after. This procedure will practically eliminate all postoperative pain and will materially hasten the usually slow cicatrization of the socket of an infected tooth.

Grand Rapids Clinic.

Porcelain Manipulation

A Practical Technic for the General Practitioner

By F. R. Felcher, D.D.S., Chicago, Ill.

XV

Firing

The porcelain bodies to be considered in these pages are dental porcelains. There are two factors which govern the fusing or vitrifying of porcelain bodies, heat and time, and the effect of both on the mass. Heat, of course, must be considered the more important, but the element of time-baking works to decided advantage in rendering a finished product of greater density and greater strength.

Porcelain bodies have ranges of shrinkage at certain temperatures from the time when this change commences to a point where it has reached a maximum. The maintenance of a constant degree of heat within the range of shrinkage for a certain period of time consistent with the temperature at which the furnace is kept will always give the best results.

In the field of ceramics, as applied to the general industry of which dental porcelains are a part, will be found the manufacture of different materials such as glass, chemical porcelains, electrical porcelains, etc. In the manufacture of some of these products, especially those in which great strength and the minimum of porosity are required, low heat and long time are especially necessary to get the required results. The manufacture of spark-plugs may be cited as an example. Spark-plugs must be very strong to enable the porcelain to withstand the pressure of the explosion of the compressed gas after it is ignited. They must have the property of being leak-proof as concerns the ignition current that passes through the electrode. The manufacturer fires these products in a manner in which several days are allowed for heating and maturing or "soaking" in order to obtain the desired results.

A simple example of the effect of heat when applied alone may best be seen in the action of high heat on such food materials as roasts or bakery products. If a roast or a loaf of bread is placed in a very hot oven, the surface will finish quickly and, when opened, the interior of the mass will be found to be unfinished or raw. The same materials placed in an oven with a lower temperature kept constant for a definite length of time will give as a result a material that is finished both inside and outside.

Porcelain bodies are comparable to the foregoing in the sense that, when subjected to a high degree of heat, the surface will be found with a glaze and the inner portion will be quite porous. This surface glaze,

being very thin, breaks readily under certain conditions and presents a rough surface in which dirt particles lodge readily and are difficult to displace.

Dental porcelains have as ingredients certain highly refractive materials and fluxes. In high-fusing bodies these fluxes are usually feldspar. In medium-fusing and lower-fusing porcelains materials such as borax, potassium, calcium carbonate or sodium carbonate are added to the body by the manufacturer.

Firing the body tends to join the high refractives (silex, quartz or flint and the kaolin) into a homogeneous mass.

Vitrification commences as soon as the fusing point of the flux or the fusing points of the various fluxes are respectively reached. Fusing continues to take place as the heat is increased up to a certain stage. That stage must be determined. Once this stage is found and the conditions of heat are regulated, then a definite method of firing can be worked out that will give consistent results.

It is first a necessary condition that there be an accurate reading of the heat in the muffle, especially near the thermo-couple. The units should be checked first when new and then from time to time as the muffle gets older. The thermo-couple tends to change, due to heat action, which in time will affect the reading so that it will not be so accurate as when new. Thermo-couple wires must be kept separated at all times. If they are allowed to touch by accident or otherwise, the pyrometer will register considerably below the heat that is actually in the muffle, and burned-out muffles, as well as overfused work, will result. Continuous use of the muffle tends to thin the platinum resistor and results in slower-heating muffles.

To the operator who understands time-baking this should not offer much concern, for in firing up to the biscuit fuse, if the holding button shows a slightly lower temperature than when the muffle was new, an additional minute or so may be added to the time for the finishing or maturing bake.

In checking, a piece of pure gold cut L-shaped is placed on a tray that has a rim. The test is best accomplished with the door opened sufficiently so that the piece of gold may be seen. As soon as the gold, which fuses at 1945° F., melts, note whether the pyrometer shows that temperature. If it does not, then use the corrector to move the needle to 1945°.

Ceramic materials undergo two shrinkages during the firing process. The first is known as *air shrinkage,* the second as the *firing shrinkage.* At the beginning of the firing the moisture in the mix is displaced by air, and the porcelain crystals tend to fall closer together, that is, they settle. As the heat increases, the firing shrinkage or the fusing of the fluxes, which commences to bind the mass, follows.

By application and condensation the operator may control the air shrinkage to a reasonable degree, and in the opinion of the author the method described elsewhere in these pages will enable the operator to obtain the best results in controlling the initial shrinkage because of the fact that the porcelain is condensed during the process three times—first, on the slab; second, by application and vibration, where the excess water is driven to the surface and removed; and, third, by spatulation or burnishing. Firing shrinkage cannot really be controlled, as in that stage a chemical change takes place, due to the action of heat causing vitrification of the body.

As before mentioned, there are definite stages where vitrification takes place. In high-fusing porcelains the maximum of shrinkage takes place from about 2350° to 2360° F. If brought to the fusing point of the porcelain (about 2550° or 2560°), the porcelain undergoes a slight period of expansion or "balling" from the maximum shrinkage temperature to the fusing temperature.

1900° F. is considered to be the temperature at which high-fusing porcelain commences to vitrify. If 10 or 12 minutes is allowed for it to reach 2350° or 2360°, a fine biscuit bake will result. Maintaining the temperature at or near 2350° or 2360° for a period of possibly seven or more minutes will give a high fuse. If a longer time is allowed from 1900° to 2350° or 2360°, the high-fusing time will necessarily have to be reduced. It must be remembered that we are dealing with heat units and with the elements of time as a factor.

If the biscuit-baked work is removed from the furnace and replaced in the muffle with the pyrometer reading 2350° or 2360°, the seven-minute time will work. If, however, the muffle is started at 1900° and 10 or 12 minutes is used to bring it to the high shrinkage point, a less amount of time for finishing may be required.

These figures will have to be taken as comparative because of conditions such as electrical voltage, slowness of the muffle, etc., and exact figures must be determined by the operator. When once they are decided upon and noted, consistent results will be obtained thereafter.

Medium-fusing (2340°) porcelain will be found to have obtained the maximum of shrinkage at 2200°. Usually six minutes is required from 1900° to 2200°. A biscuit bake will result and high fusion will be obtained at 2200° in five or six minutes.

The lower-fusing porcelains operate along similar lines. One manufacturer produces a medium-low fusing porcelain that biscuits at 1900° F. for about seven minutes. Another produces a low-fusing porcelain which will biscuit at 1600° and high-fuse at 1700° in a certain number of minutes.

The usual procedure is to find out just what button will hold the temperature constant and to set an interval timer so that the bell will

ring at the required time. There is on the market at present a timer that can be used to good advantage with most furnaces. The timer and the pyrometer may be synchronized to read alike by the use of the rheostat switch.

Another furnace can be operated by the timer alone. For example, from Button 4, reading 1900°, move to Button 5, set timer for five minutes; when bell rings, set to Button 6 for five minutes, and a biscuit bake for high-fusing porcelain will result under ordinary current conditions. When the bell rings, move back to Button 5 and note the holding temperature. If the holding temperature is 2340°, for example, then set the timer for the required number of minutes and a perfect high-fuse will be obtained.

Assuming that a button holds the temperature a few degrees above or below the biscuit fuse, especially as the muffle slows up through use, then it is only a matter of adding or subtracting time as required.

The following table will give a good comparative idea of time-baking porcelains, stains, glazes, etc. No doubt there will be some variation due to current or the condition of the muffle, but it will be found to be fairly accurate.

Material	*Fusing Point about*	*Biscuit Bake*	*High Fuse at about*
S. S. White High-Fusing	2560°	2340°—2400°	2400°—5 or 6 min.
" Med.-Fusing	2340°	2150°—2200°	2200°—5 or 6 min.
" Low-Fusing	1740°	1500°—1600°	1700°—2 min.
Justi High-Fusing	2500°	2340°—2400°	2400°—4 or 5 min.
" Med.-Fusing	2300°	2150°—2200°	2200°—4 or 5 min.
Twenth. Cent. High-Fusing	2560°	2340°—2400°	2400°—5 or 6 min.
" " Med.-Low-Fusing	2100°	1900°	1900°—7 to 10 min.
Close's Pink Porcelain Reg.	2290°	2150°—2190°	2190°—5 min.
" " " Easy	2190°	2050°—2090°	2090°—5 min.
Allen's Body	2350°	2150°—2200°	2200°—5 min.
" Pink	2250°	2100°—2150°	2150°—5 min.
Steele's Superglaze	1945°		1945°
S. S. White Glaze	1600°		1600°
Ponto-pin Glaze	1600°—1700		1600°—1700°
Justi High-Fus. Stain	Same as Justi High-Fusing Porcelain		
S. S. White Low Mineral	1600°		1600°
" High Mineral	1900°		1900°

All porcelains should undergo some tempering after fusion has taken place. Of course, if the work could be left in the furnace and cooled to room temperature, there would be a greater advantage. However, if time does not permit, be sure to cover the work with a glass tumbler immediately after it is removed from the hot furnace. If left in the furnace for tempering purposes, make sure that the current is cut off and the temperature drops to a decided degree, so as to prevent

overfusion. It may be necessary to open the muffle door slightly to accomplish this.

There is no advantage to be gained by putting the work in a cold furnace, as no action takes place in the porcelain body until the temperature at which the porcelain commences to shrink is reached.

7616 Phillips Avenue.

[USES OF PORCELAIN]

Porcelain is indicated in the form of inlays in all cervical cavities and in approximal cavities of the six superior anterior teeth not involving the incisal angle. It is employed for glazed tips and individual saddles in fixed-bridge work and for jacket crowns on all teeth. It should be kept in mind that, as in all other materials, success depends on good judgment at all times, compatible with the diagnosis and mechanics of the case.

—Le Gro.

The Rise and Fall of Oral Hygiene In Bridgeport

By George Wood Clapp, D.D.S., New York, N. Y.

SIXTH ARTICLE

GETTING KNOWLEDGE INTO LITTLE MINDS

The startling demonstrations as to the relation between the character of the food intake and the health of the mouth and the teeth which were described in the *Fifth Article* merely shed new light on convictions that had been forming in Dr. Fones's mind for a number of years, some of which he had already acted upon.

In 1907 he had prepared and distributed among his patients an

First corps of dental hygienists in the Bridgeport public schools (1914).

educational pamphlet entitled *Clean Mouths*. This advocated the principles of prophylaxis and warned against the use of sugars and starches as likely to cause decay. In 1908 another pamphlet urged them to practice thorough mastication, which was then being much discussed under the name *Fletcherism*. He became so interested in the merits of the low-protein diet as advocated by Professor Chittenden of Yale that he procured him as a lecturer for the classes of hygienists.

When the work was begun in the schools (1914), the examination

chart that was sent home bore a note of explanation in which were these words: "You can aid us very much if you will . . . . . bear in mind that candy, cookies, bread and crackers, if left on the teeth, will cause them to decay."

The experience with the soldier boys also confirmed some experiences with the children. While the hygienists were working in the schools in the financially well-to-do sections of the city, they found the mouths of the children very much alike. But when they reached certain other sections, especially those inhabited by large numbers of Jews and Italians, they found startling discrepancies. The mouths of the children of all races were unclean. In the mouths of some races the ravages of decay were uniformly destructive and in all races this was sometimes the case. But in the mouths of many Jewish and Italian children the teeth were relatively sound and in good position. The enamel was hard and brilliant and apparently immune to attack by the agents of decay.

Inquiry into the food habits of the families to which these children belonged showed that they were accustomed to the use of dark rye bread, baked very hard so that it required forcible mastication to make it palatable, and also raw carrots, raw onions and raw garlic. There was always a low intake of meat and of sugar, no sweet desserts nor candy, and no appetite for them. These children would offer the hygienist garlic as a delicacy and laugh in glee at her discomfiture. Those children who were fed upon white bread, meat, potatoes, cooked fruits and vegetables, and liberal quantities of sugar, candy and sweet desserts always showed destructive decay and nearly always other evidences of systemic deficiency.

The children of many of the foreign-born parents were in the habit of drinking beer, and the consumption of tea and coffee by all the youngsters was really alarming.

Educational efforts were begun to discourage the use of sugar and refined flour and cereals and to teach children and parents why tea-, coffee- and beer-drinking by the children should be stopped. The slogan, *A quart of milk per child per day,* was presented wherever opportunity offered. Drs. Strang and Fones gave stereopticon lectures to the children, and an instructive pamphlet entitled *Cleanliness and Wholesome Foods Prevent Dental Decay* was given to them to take home. Many of the parents could not read English, but the children read to them or told them the substance of the contents and sometimes aided in following the directions. This instruction in the classrooms of the Bridgeport schools, beginning in 1915, was, so far as Dr. Fones knows, the first organized instruction as to diet in relation to general and oral health in any public school system.

Much of the success in putting across the educational campaign was

due to the initiative and ingenuity of the dental hygienists. It began to manifest itself right here. Milk must have seemed pretty tame to children accustomed to beer, but the young ladies learned that if it was flavored with a little chocolate, it was very attractive. And many a glass of milk was gotten on its health-giving way by a few drops of chocolate as a flavor.

In 1916 Drs. Fones and Strang prepared another stereopticon lecture and gave it in the classrooms. During the school year of 1917-1918 the women dentists gave illustrated lectures to the children in the higher grades, showing how teeth are formed, what causes decay, and how cavities should be prepared and filled to secure good results.

In 1918, as an outgrowth of what had been learned about immunity to dental caries as shown by races accustomed to a fruit, vegetable and hard-bread diet, Miss Cortright prepared a series of eight mottoes, each imprinted on a large card, as follows:

Beets, milk, corn and peas,
There's plenty of sugar in foods like these.

For dessert eat nature's sweets,
All the fruits and nice nut meats.

Candy, pudding, pies and cake
Decay your teeth and then they ache!

If a tooth could talk, it would surely say,
"I need to be cleaned four times a day."

All the foods that grow in the ground
Make bones and teeth that are hard and sound.

Milk is the very best food we know;
Let's drink plenty, it makes us grow.

You must eat whole grain bread each day,
If you wish good health to come your way.

Children, you should learn this truth—
Refined sugar decays a tooth.

These mottoes were used in connection with an illustrated lecture which was given by the hygienists to Grades 4-5. One card was placed in each room during the time the hygienist was at work in the school, and the cards were changed about once a week.

There is an interesting, if brief, story to tell of the very great influence which this educational campaign had upon the history of Bridgeport during the epidemic of influenza, but it can be better told in connection with a survey of the general results of all the work.

A Vision of New Worlds to Conquer

Early in 1920 those most actively responsible for the conduct of the oral hygiene campaign in the schools realized that it had gone about as far as it could on the initial impetus, and that it was desirable to systematize the methods of instruction and integrate them more closely with the school work. There were then twenty-six hygienists and two women dentists caring for more than 20,000 school children. But the keynote of the undertaking had never been care of the individual by the city; it had always been to teach the individual to care for himself. The care by the city was to be only such as the individual could not give, and it was hoped that the per capita expenditure for it would decrease.

Each of the dental hygienists was therefore instructed to select one or more subjects which appealed to her as attractive or effective in presentation and to prepare such a lecture upon it as she thought should be given. These lectures were submitted to Dr. Fones, Miss House and Mrs. Hart for technical accuracy.

In the fall of 1920 Dr. Fones secured the services of Miss Anderson, psychologist and teachers' critic at the Bridgeport Normal School, who gave all the hygienists a fifteen-weeks' course in applied psychology and pedagogy. The lectures which the girls had prepared were then studied in the light of what had been learned, and Miss Anderson rehearsed each girl in her lecture until she was able to make it interesting and effective.

In 1921-1922 Miss Dakin, dietitian at the Connecticut Agricultural College at Storrs, gave the hygienists a thirteen-weeks' course in practical dietetics, and the resulting information was thenceforth incorporated into their teaching. This course correlated the dietetic information which the hygienists had received and gave it an authoritative background.

The subjects of these lectures and the lecture material were well suited to the mental development of the children to whom they were addressed, as the following list of a few titles may suggest:

For Grades 5B and 4A

The story of Tiny Tim.....Mrs. Haggerty
Food Fun Game.....Miss Poland
Whole Grains for Bread and Cereals.....Miss Cunningham
The Permanent Teeth.....Miss Nichols
Filling of Small Cavities.....Miss Morey

FOR GRADES 4B AND 3A

The Importance of Deciduous Teeth.....Miss Melius
The Six-Year Molar.....Miss Sherman
Deformities of the Mouth.....Miss Wilcox
Good Teeth, Good Health—
Poor Teeth, Poor Health.....Miss Graham

FOR GRADES 3B AND 2A

The House That Jack Built.....Miss Hawley
Importance of Good Table Manners.....Miss Burke

With the shrewdest of psychology the elements of interest and fun were inseparably woven into some of these lessons. *The Story of Tiny Tim* is described as having been a "riot." It is an account in clever verse, written by Mrs. Jessie M. Haggerty, of the adventures of a little lad, different portions of which were used at different times as the grade or circumstances indicated. It was received with unflagging interest by the children. Tiny Tim could not visit them too often. And it is said that all the children in a room would devote themselves utterly to the tasks of the day and maintain nearly perfect discipline if the teacher would promise them a visit from Tiny Tim before the day closed. It is not possible to reproduce the whole poem here, but a few verses will suggest its character. Seldom, indeed, has any poet won from even small audiences such devotion as did Mrs. Haggerty.

TINY TIM

BY MRS. JESSIE M. HAGGERTY

I'll tell you the story of Tiny Tim,
Who came into the world full of vigor and vim.

* * * *

Every three hours he'd rouse from his sleep,
For he always knew when 'twas time to eat.
After six weeks' time had quietly passed,
Tim was beginning to change quite fast.
He would raise his hands above his eyes
And watch their movements with great surprise,
Wondering how they moved around,
And how he could clap them and make a sound.

* * * *

Four tiny teeth appeared in a row,
Two above, and two below.

* * * *

These were followed by sixteen more,
And at two years of age, there were twenty—a score.
At five years of age, as is the rule,
He made his first appearance at school.

Now your name may be Alice or Esther or Jim,
But you've followed the footsteps of Tiny Tim.

* * * *

Your bodies—we'll call them a "Human Machine"—
Kept running by food, not gasoline.

Wherever there's motion or work to be done,
The power to do it from somewhere must come.

When we go out in an auto to ride,
We must have the gasoline tank supplied.

* * * *

Now, in the "Human Machine" the principal parts
Are blood, bone and muscle, the engine—the heart.

The bones form the framework. The organs inside
Are servants that work for us and grow, besides.

The heart and the lungs work night and day
From the beginning of life till we pass away.

The kidneys, the stomach, the liver, the brain,
All wearing out tissue must be built up again.

Many elements make up our "Human Machine"—
They are carbon, magnesium, iron, iodine,

Sodium, calcium, sulphur, and oxygen—
A few other elements, including nitrogen.

Milk is the only food that contains them all.
We all lived on it when we were small.

* * * *

In the building foods we have lean meat and cheese,
Fish, eggs, nuts, beans and peas.

These are the foods which build up our muscle
And give us the strength that we need when we hustle.

Lime for building the teeth and the bone
In vegetables principally makes its home.

Foods with starch contain strength and heat.
We eat this in potatoes, rice, corn and wheat.

In butter and cream are the fats that we eat,
In cottonseed and olive oil, also in meat.

If you want something sweet, the sugar you'll find
In bananas and oranges—just the right kind.

(The teaching of the principles of diet at Bridgeport was especially well done because the element of play, so strong in children and stronger in adults than some of us always remember, was never forgotten. The Seventh Article gives the words of three songs that were very popular and tells about the Food Fun Game, one of the cleverest of devices for imparting information to children.)

Reminiscences—Mostly Anesthetic

By William Harper De Ford, D.D.S., M.D., Des Moines, Iowa

SIXTH ARTICLE

Succeeding G. V. Black as a teacher of oral pathology and oral hygiene at the State University of Iowa was one thing, but to succeed Dr. Black in the middle of a term and continue with the class that had been listening to his lectures was a different matter. Delivering an hour's lecture three times a week on these branches was enough to tax the best of teachers, but to deliver all three lectures in one forenoon, spend the same afternoon in the clinic and conduct a practice in addition was more than I should have undertaken.

After my second year at the University I was asked to take charge of the anesthetic cases, so they were assigned to my afternoon in the clinic. Twelve years of this kind of work had just about incapacitated me, and besides I was having considerable trouble with my eyes. In the meantime I had married Dr. Jessie M. Ritchey of Des Moines, the first woman graduate of the College of Dentistry of Iowa State University. I was fond of teaching and working with students and should have liked to devote my entire time to teaching, relinquishing the private practice of dentistry, but because of the salary involved I was unable to make such an arrangement with the University, so I resigned after twelve years of service.

An incident happened one afternoon in the extracting room at the University Clinic that caused me to slow up my enthusiastic advocacy of the use of chloroform for dental operations. This did not happen on my day at the clinic, but Dr. Rogers, Superintendent of Clinics, gave me an account of it. It was contrary to the rules for a student to extract teeth except in the presence of a teacher or demonstrator. On this occasion, when Dr. Rogers escorted a patient and a student to the extracting room, he observed the following:

A patient was sitting in the extracting chair sound asleep and a student was sprawled out on the floor also sound asleep. A bottle of chloroform had caught in the folds of the towel that had been placed about the patient's neck, and the cork was missing. The inference was that this student had sneaked his patient into the extracting room in order to try the chloroform method. Opening the chloroform bottle, or while the patient was inhaling the chloroform, the student was overcome by the fumes, lost his balance, and fell upon the floor. The bottle was far enough away so that the patient was getting only a very small amount of the vapor. In a few minutes both student and patient were awake, none the worse for what had happened, but it was a fine lesson for all of us. It made me feel that too much emphasis could not be laid

on the importance of making plain the technic of chloroform administration. Indeed, after this occurrence our anesthetic activities at the State University of Iowa were confined to nitrous oxid.

In June, 1902, I sold my office and practice in Cedar Rapids and resigned my position as a member of the faculty of the State University. We went to Colorado for a good rest, but this soon grew tiresome and we returned to Iowa and opened an office for the practice of dentistry at Jefferson, Dr. Jessie Ritchey taking on operative dentistry and crown and bridgework, while I confined myself to plate work, anesthetics and exodontia because of the condition of my eyes.

Shortly after opening our office a foreign medical journal came into my possession in which was printed an article on somnoform which attracted my attention and interested me very much. I immediately had my dental dealer order for me an appliance and a supply of somnoform. This was about six months before I saw somnoform mentioned in any medical or dental journal in this country. I sent abroad and procured all the literature available on somnoform, but before I had had an opportunity to try or experiment with it, the most objectionable thing I could see to it was its name. It sounded too much like chloroform. Chloroform had the reputation of being the most dangerous of all anesthetics, and it was because of the way it was usually administered, and everybody seemed to know it. Moreover, it was surprising how many patients knew the odor of chloroform, and when I would use it, for its analgesic effect, for cavity preparation, "That's chloroform," they would say, "I can't take chloroform."

For twenty-two years I had been searching for some agent that would permit the dental surgeon to do his work painlessly, not so much just to avoid pain, but because, if dentistry could be done painlessly, proper cavity preparation could be made and fillings would not be falling out in a few months. Dental mechanics are so well understood now that dentists know what to do, and how to do it, but they and their patients become worn out before ideal cavity preparation can be made. If cavity preparation and other painful conditions could be made painless, the value of dentistry would increase one thousand per cent, and patients would pay their bills gladly. At the present time I have lost my identity as a dentist with the public, and when the conversation in a group of people turns to dentistry, it would make your cheeks burn to hear what people at large think of dental operations.

Having experimented with the best known anesthetic agents for more than twenty years, I wanted to know if there was anything better to be had. Beautiful results were obtained with both nitrous oxid and nitrous oxid and oxygen, but the appliance was expensive and these agents were somewhat difficult to administer. Chloroform vapor was ideal, practically no apparatus was necessary, it was easy to administer,

and the results were very satisfactory. But all medical authorities agreed that chloroform should never be administered to a patient except in the recumbent position, and that no operation should be attempted unless the patient was in the fourth stage, the stage of deep surgical anesthesia. This being the case, should a death occur, the dentist would find himself in a precarious position.

While chloroform has been administered thousands of times with patients in the upright position, and dental operations, other than extracting teeth, has been performed painlessly and safely, you can never tell when a death will occur. No death has ever been reported from using chloroform in the analgesic stage for operations on the teeth other than extracting, but the death rate under chloroform for other operations is very high. I personally did not believe that it was dangerous to use these anesthetic agents in performing the dental operations we are considering, in the analgesic stage, if they were properly administered, but so much was offered in the somnoform literature that I was determined to find out for myself whether or not it was superior to nitrous oxid and chloroform as an adjunct to painless operations on the teeth.

Somnoform had an advantage over chloroform in that, while its name sounded like chloroform, you could state positively to those who raised objection to it that it was not chloroform. It had in its favor a low death record, its odor was not unpleasant, and its action was quicker than that of chloroform. Its volatility was very high, hence it entered and left the system more quickly than chloroform. The tissues affected were more deeply deadened to instrumentation than when chloroform was used. The literature offered no objection to administering somnoform in the upright position, such as patients assume in a dental chair, it was not expensive and could be easily carried to a physician's office, the home of a patient or a hospital if occasion demanded. It seemed to have much in its favor but—there is an old saying, "The proof of the pudding is the eating thereof." Could it be easily administered? Would the inhaler be trustworthy and safe? These and other questions could be answered only by trial.

The appliance proved to be safe, especially for the patient, since the operator got more of it than the patient, as so much caution had been taken to insure safety. A few months later another inhaler was placed on the market, which was very much superior to the original appliance. I became very enthusiastic about somnoform, used it extensively in our office and for physicians for all kinds of minor surgical operations.

About this time I received a letter from Dr. Burton Lee Thorpe of St. Louis, President of the American Dental Association, saying that he had been made associate editor of *The Dental Brief,* a journal which, in the words of Grover Cleveland, had fallen into *innocuous desuetude,* and it was up to him to revive it, and he believed that a few articles on

anesthetics from me would help to get the desired results. Having been relieved of my duties at the State University of Iowa, I had considerable time at my disposal for thinking, experimenting and writing, and, if I remember correctly, I sent him an article for eighteen successive numbers for publication in *The Dental Brief*.

15 Rawson Block.

(*To be continued*)

[THE SPECIALIST'S RESPONSIBILITY]

The general practitioner bears a direct professional relationship to his patient. He is the family consultant and advises in matters pertaining to dentistry. As a rule, the practitioner whose practice is limited to a special branch is usually consulted only for the specific treatment involved. In the performance of his services, the specialist often bears the responsibility of satisfying both the patient and referring practitioner, not only in the quality of service rendered but also in the manner in which the patient is handled.

—BEAR.

Dental Interns

By Allan M. Johnson, A.B., D.M.D., New York, N. Y.

Dentistry has changed from a purely mechanical occupation to an important position in the health service to the community. The recognition that the condition of the teeth and their supporting tissues may have an important bearing on the health and life of an individual has put on dentistry a responsibility which at first the profession was not ready to bear. Consequently, when physicians ordered wholesale extractions, the dentist did not dare to protest but obeyed blindly. Only time proved the utter futility of many of these mutilations.

In the meantime, dental education was improved and more medical subjects were taught. A closer cooperation between the two branches of the healing art was recognized as desirable, and in some instances this is being attained, but the majority of dentists and physicians are as far apart as the poles. The dentist is unable to catch the medical viewpoint and the physician regards him with ill-concealed contempt.

This is not surprising. Oral surgeons are operating more and more in hospitals, but very few of them have the true aseptic sense or know how to conduct themselves in an operating room. When a physician consults with a dentist and begins talking in purely medical terms, the dentist is generally utterly bewildered and, to hide his ignorance and embarrassment, agrees blindly.

How, then, is this condition to be remedied? One method is to make dentistry a branch of medicine and give to both medical and dental students the same education. This may come, but it is not yet at hand.

There is another solution which seems to be admirable, and that is the one of internships. When a man graduates from medical school, his first aim and ambition is to secure an internship. The necessity has been urged on him all through his course, and there is lively competition for positions in the best hospitals.

What is not generally known is that there are at present 61 internships for dentists open in the United States in hospitals with over 100 beds. Some of these positions pay salaries. The majority do not. As the demand increases, the number of positions will increase, and it is estimated that there will be enough places to absorb the majority of men who graduate each year from the dental schools.

What, strictly speaking, is a dental internship? It means that a man who has just graduated goes into a hospital for a certain length of time, sleeping and eating there. In this way he comes in close contact with the physician and with all sorts of physical disabilities. He learns to connect up the restricted field of the mouth with the larger field of

the body. He recognizes the viewpoint of the physician and, perhaps what is more important, finds out that the physician is human and not infallible and can make as many mistakes as any other person.

In the best hospitals the dental intern is on the same footing as the medical or surgical intern, and it is wholly up to him as to whether or not he can command the respect that is due him. With the raised standard of dental education this should not be difficult.

Summing up, the dental intern is forcibly and vividly carried outside the narrow confines of his special field, and his vision is broadened. He learns how to conduct himself with the medical men, to be at his ease, and to know what they are talking about. The internship is not only for men who intend to specialize in oral surgery, since various types of dental operations are required. And, finally, the more dental interns there are, the sooner and better will be established a bond of confidence and respect between the physician and the dentist.

[SPECIALTIES]

Specialties in medicine or dentistry are only what the practitioners consider them to be. Laws do not make specialists, although they permit men to become such regardless of their training or experience. Occupational restriction is a widely discussed social and economic problem. Those occupations that deal with individual or community health are fortunately governed by some form of licensure or regulatory control.

—MILLBERRY.

Oral Surgery In Practice

By James L. Zemsky, D.D.S., New York, N. Y.

Attending Surgeon, Department of Oral Surgery; Chief of Clinic and Director, Surgical Periodontia Department, Midtown Hospital, New York

(*Continued from May*)

CYSTS (Continued)

¶240. Cysts which present an infected and degenerated lining should be operated upon by complete enucleation of the sac followed by suturing of the wound. Cysts which appear to have a healthy and normal sac lining may be successfully operated upon by removing the outer wall only. This converts the cystic cavity into a shallow depression, which thus forms an accessory sinus to the oral cavity and in time becomes almost entirely obliterated. (See Figs. 248-258.)

Fig. 248

Fig. 249

Fig. 248

MAXILLARY RADICULAR CYST INVOLVING THE NASAL FOSSA

Roentgenogram revealing the extent of bony destruction brought about by the presence of a cyst in the jaw. (See ¶240-241.)

Fig. 249

MAXILLARY RADICULAR CYST IN AN EDENTULOUS MOUTH PRESENTING SWELLING OF THE FACE

Photograph showing a marked swelling in the buccal fold of the maxilla extending from the left central incisor region to the right molar region. Upon palpation a parchmentlike sensation is elicited, which suggests the presence of a cyst. A roentgenogram of this region reveals the condition as shown in Fig. 250.

Fig. 250

Roentgenogram of the same patient as in Fig. 249. The radiolucent area represents the extent of the cyst, which condition may be diagnosed from this roentgenogram. (See ¶240.)

Fig. 251

PALATAL SWELLING CAUSED BY RADICULAR MAXILLARY CYST

Photograph of a patient presenting a small swelling on the hard palate. This was due to a cyst probably caused by an infected and previously extracted lateral incisor on that side of the maxilla. Palatal swellings usually are caused by diseased laterals; occasionally, however, other teeth may produce them. When a palatal swelling is soft and fluctuates and a roentgenogram of that region does not show any destruction of bone, as a rule it is caused by the pus burrowing through the bone, thus producing a sagging of the periosteum. Such swellings should be incised and drained.

When palatal swellings are caused by destruction of bone due to formation of cysts as in this case, *no palatal incision* is indicated. Instead an operation for the removal of the cyst should be performed. The palatal muco-periosteum must not be disturbed, for the conservation of this structure presents deformity and enhances healing. (See ¶240-241.)

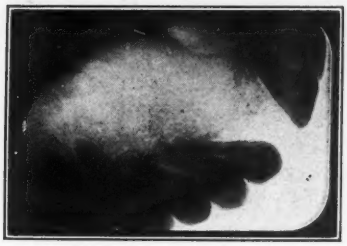

Fig. 252

Roentgenogram of the same patient as in Fig. 251. This reveals the presence of a cyst, which caused destruction of the palatal bone. (See ¶240-241.)

Fig. 253

MAXILLARY RADICULAR CYST PRESENTING PALATAL AND FACIAL SWELLINGS

Roentgenogram revealing an extensive radiolucent area, indicating the presence of a cyst in the right maxilla. All the teeth on that side except the last molar are involved. The diagnosis of a cyst can be made just from roentgenograms. (See ¶240-241.)

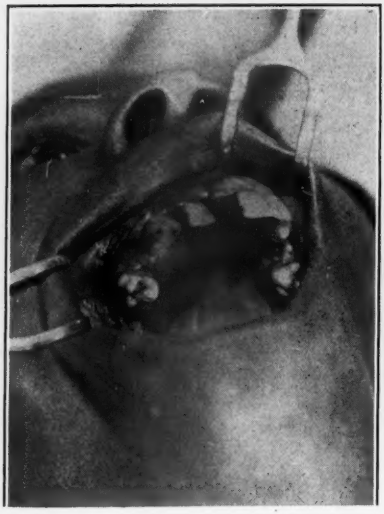

Fig. 254

Fig. 255

Fig. 254

PALATAL SWELLING CAUSED BY MAXILLARY RADICULAR CYST

Photograph showing an extensive swelling on the hard palate extending from the alveolar ridge between the right lateral and molar toward the median line on the palate. The swelling is soft and fluctuating, suggesting the presence of fluid. A roentgenogram showed an extensive destruction of bone, indicating the presence of a cyst. Such cases should be treated by complete eradication of the cyst, but making an incision on the palate for the purpose of evacuation of the fluid is contra-indicated, for it often hampers the process of healing and at times even causes unnecessary deformity. (See ¶240.)

Fig. 255

SWELLING OF THE FACE CAUSED BY DENTIGEROUS OR FOLLICULAR CYST

Photograph of a girl, 8 years old, presenting a swelling on the right side of the face. Intra-oral examination revealed the absence of the right second deciduous molar, in which region a fistula discharging light yellowish fluid was found. The history relates that the second deciduous molar was removed some time ago and soon after the extraction the swelling and the discharge appeared. A roentgenogram of the region is shown in Fig. 256. (See ¶240, 242, 244.)

Fig. 256

Roentgenogram showing a follicular cyst involving the permanent first molar, the bud of the second deciduous premolar, and the first temporary molar.

Fig. 257

MANDIBULAR RADICULAR CYST IN EDENTULOUS SPACE

Roentgenogram of a mandible showing a large cyst in an edentulous space. The cyst extends from canine to second molar, occupying nearly the whole body of the mandible. (See ¶240.)

Fig. 258

MANDIBULAR CYST INVOLVING THE RAMUS

Roentgenogram of the mandible of a patient, 44 years of age. It shows a cystic area extending posteriorly from the second molar, up along the ramus and down to the mandibular canal.

The history indicates that the third molar was extracted a number of years ago, because it had caused two recurrent swellings on that side of the face and was accompanied by trismus. It is possible that there was a pathological condition of the surrounding osseous structures which was not treated at the time of the extraction and consequently resulted in the extensive loss of bone as revealed by this roentgenogram. (See ¶240.)

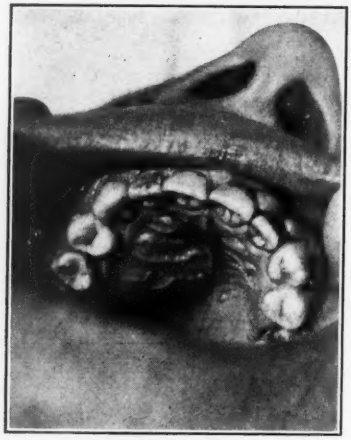

Fig. 259

Photograph showing a swelling on the roof of the mouth, indicating a pathological condition of the maxilla as disclosed in Fig. 253.

¶241. Teeth whose apices are denuded of bony covering, and which project into cystic areas, should be extracted. At times these teeth may be conserved by root resection. (See Fig. 259.)

¶242. Cases in which shelling out of the cyst is followed by normal bleeding and formation of a healthy clot do not require any dressing and may be completely sutured at once.

¶243. Maxillary cysts situated in close proximity to the nasal floor and maxillary sinuses (occasionally separated from these structures merely by a thin membrane) require great care in their removal. Much effort should be exerted to avoid breaking through these membranes, since such accidents delay healing and not infrequently cause serious complications.

355 East 149th Street.

(*To be continued*)

Togo's "Discursions"

Mr. Editor of Magazine Devoted to Inside Job of Dentistry

Hon. Sir:

Month of June denoting Sweet Girl Graduate, Imperial Valley cantaloupe and other delicious, etc., conveys also Annual Crop of Doctors D.D.S. who erupt successfully from final Exams only to be confronted with still more final State Boards which insist on interfering with blossoming Hopes in several instances.

Numerous thoughts arise in connection with problem of Dental Education and Examination, several of which can perhaps be allowed to escape by means of assorted English expressions via Japanese Loud Speaker.

First problem occasioning intellectual hiccoughs is strange phenomena occurring when person of adult years and good moral character upon emerging from Educational Institution which has accredited standing and corps of entirely competent instructors, with unconditional Diploma firmly clasped to palpitating bosom which denotes considerable proficiency in Dentistry and allied indoor sports, is halted by 57 varieties of casual State Boards before being allowed to proceed to final event of offering individual services as per sheepskin specifications, to fellow Human Beings. In language of late resident of Avon and several others, "What is the Big Idea?" If school is actually competent to grant Diplomas and such Diplomas are properly in possession of original Grantees why pursue such disagreeable matter more continuously? If school is found unfit or guilty of unworthy practices—quietly and permanently bury such school.

To all impartial intelligences who have personally encountered College Faculties and State Boards when said Fauna roamed at large through Dental Discussions or other Intellectual Diversions, easily discernible fact becomes at once noticeable that members of College Faculties show decidedly superior evidence of gray matter and high ethical purposes than do Political Appointees who in spite of intellectual shortcomings possess final authority to check up on all finished products turned out by Dental Educational Institution!

Second point arising to demand intelligent questioning is astonishing condition presented when individual with both College Degree and State License in personal possession desires to remove to State located elsewhere to continue practice of chosen means of livelihood.

Annoyances and hazards of still unsatisfied watchdogs of State Police Powers or Public Health Depts. must again be encountered. Frequently this becomes extremely difficult and discouraging proposition; for many highly competent individuals who have possibly for

years been devoting entire time to only one or two branches of Dental Practice must suddenly face searching examination covering entire field before being permitted to continue specialized practice in new location.

Welfare and safety of Hon. Public is not more sacred in one State than in any other, and man possessing legal status regarding training and ability in one cannot possibly suffer actual loss of such ability by crossing imaginary line in any public or private means of conveyance.

Occasional check-up of *all* Physicians, Surgeons, Dentists, Attorneys and other Professional, etc., would be highly sensible undertaking and prove of great benefit to suffering Vox Populi who at present have no means of really distinguishing between pure gold of Professional Competence and glittering speeches and claims of Charlatanism except General Public Reputation which often bears no relation to Net Professional Ability. Varied and widely assorted contacts with Professional Men experienced under intimate and confidential circumstances over considerable period of adult years lead to deliberate conclusion that proper and workable machinery for permanently eliminating flourishing but noxious weeds from Flowery Fields of Professional Practice is of far greater present importance than slight error of allowing occasional tares to slip past double-guarded bars which at present safeguard entrance to said Grazing Grounds.

At present moment of A.D. 1928 perhaps 80% of all dental work now existing in mouths of Hon. Gen. Public is of standard so decidedly inferior that no Senior Student in any Dental College could persuade overworked but conscientious Demonstrator to allow passing grade on same; yet men who are continuously turning out such degraded dentistry are permitted to continue unworthy efforts until belated personal demise closes forever Individual Dental Grief Factories, remuneratively conducted under State Public Protection during entire lifetime.

Observable facts seem to indicate that Human Nature is composed of many elements most of which are utterly beyond analysis. Once all barriers and hurdles have been successfully negotiated, individual engaged in Professional work is really responsible to nothing except own Conscience and feelings of Self-Respect. In cases where these substances are lacking or deficient, steady deterioration seems to occur and output of such individual falls in quality and Hon. Public becomes direct sufferer. Up to hour of final "dead line" for Japanese communication via U. S. Mail no suitable remedy seems to have been discovered for correcting facts as above noted.

With barriers being raised higher each year to prevent hopeful and promising Youth from entering Professional Life nothing whatever seems attempted to perform suitable ouster or eviction operations on hopelessly incompetent Age already present in unsuitable numbers.

After all other problems now occupying Preferred Positions on

Editorial Desk have been "Digested" and Assimilated thoughtful collaboration might be undertaken covering points as noted—Japanese brains though possibly ineffectual are entirely docile and willing.

Hoping you are the same,

Yours considerably,

TOGO.

Baltimore City Dental Society Honors Dr. Harry E. Kelsey

The Baltimore City Dental Society tendered a banquet at the Southern Hotel on April 27, 1928, in honor of one of its most prominent members, Harry E. Kelsey. The banquet was held at the closing session of the Southern Society of Orthodontists, which convened in Baltimore on April 26-27.

Dr. Kelsey is the retiring president of the Orthodontic Society, and the banquet was given as a fitting tribute to his many scientific contributions to dental literature and to his zealous and untiring work for the progress of dentistry.

B. Lucian Brun was toastmaster, and the following responded to toasts:

Frederick B. Noyes of Chicago, *What We Think of Dr. Kelsey in the West.*

Oren A. Oliver of Nashville, *What We Think of Dr. Kelsey as a Specialist.*

John V. Mershon of Philadelphia, *What We Think of Dr. Kelsey as a Good Fellow.*

Clinton C. Howard of Atlanta, *What We Think of Dr. Kelsey in the South.*

George E. Hardy of Baltimore, *What We Think of Dr. Kelsey as a Friend.*

Dr. Walter E. Green, president of the Baltimore City Dental Society, presented to Dr. Kelsey on behalf of the Society a very handsome wrist watch. Many congratulatory messages were received by the guest of honor from members of the profession throughout the United States and Europe.

DIGESTS

WHAT A DENTIST SHOULD KNOW OF DRUG ADMINISTRATION

By Harlow Brooks, M.D.

Every dentist should know the signs and symptoms of any drug he prescribes. Many people are intolerant to iodine, even in small amounts, and react with a gastro-intestinal irritation and a skin rash. This has been noticed even from the use of an iodoform gauze packing. Aspirin also may be the cause of a rash.

The dentist, though not so frequently as the physician, must be on guard against the habitual user of morphin and its derivations, but care should be exercised that this sedative is not withheld from any one who is entitled to it.

Many men are too cautious in giving drugs. If they are to be used at all, they should be given in such doses as will be effective. Except in cases of idiosyncrasy, drugs are tolerated in much larger doses than are stated in the pharmacopeia. Overdosage may be guarded against by noting the excretory rate of any preparation and taking into account the body weight of the patient.

The number of drugs used should be limited as much as possible; the toxic effect of each drug should be known, and the dosage necessary to get real results; what it is to be used for; and, finally, when to use it and when not to use it.—*The Dental Cosmos,* April, 1928.

INFLUENCE OF NASO-ORAL SEPSIS ON THE LUNGS

By Dr. R. A. Young

There are at least six ways in which local septic disease in the mouth, nose and pharynx may affect the respiratory mechanism, viz.:

(1) By direct spread of infection along the mucous or submucous tissues, thus leading to pharyngitis, laryngitis, tracheitis and bronchitis.

(2) Mechanically—e.g., by nasal obstruction, thus abrogating the filtering and warning functions of the nose and leading to mouth-breathing, thereby promoting catarrhal infections of the air passages and alveoli.

(3) The effects of inhalation: (a) of septic organisms derived from

the nose or mouth, leading to infective conditions of the bronchi or lungs; (b) of particles or masses of infective material, more particularly where there is widespread local ulcerative disease of the epiglottis and larynx, or when the patient is unconscious from disease or from anesthetics. This may be a good opportunity to stress the importance of the strictest hygiene of the mouth and nose in all cases of operations, except those of emergency. If this were done, there would be fewer cases of post-anesthetic lung conditions than we meet at present.

(4) The effects of the altered blood and immunity conditions induced by the absorption of toxic products from the local disease areas. These effects are apparent in any case of long-continued sepsis, notably the anemia of more or less profound degree. Not infrequently there are indications of endocrine exhaustion, notably the lowered blood-pressure and the suggestive appearance of mild hypothyroidism presented by patients with advanced oral sepsis. Such indications of depressed function can hardly be without effect in diminishing the patient's resistance to septic processes in the bronchi and lungs.

(5) When oro-nasal sepsis leads to septicemia, or to infective endocarditis, the lungs naturally become affected directly or indirectly.

(6) Although strictly not affecting the respiratory system, the production of painful fibrositis of the muscles of the thoracic cage, leading to pleurodynia, superficially simulating pleurisy, is worth mentioning, since it is common and frequently affords a difficult problem in differential diagnosis.—*Proceedings of the Royal Society of Medicine,* March, 1928.

THE NATURE OF DENTAL SEPSIS

By Mr. J. G. Turner

Upon examination most mouths will be found to be septic, due to stagnating food debris, epithelial debris and mucus. Most of the food debris comes from bread and similar sticky substances.

At first there may be no effect on the adjacent tissues, but soon local infection of the teeth, gums and bone follows, and we have caries, dead pulps and periapical infection, together with pyorrhea.

There are three points to be remembered:

1. Disease is often due to dental sepsis alone.
2. If sticky food is omitted from the diet, or the teeth are kept clean, dental sepsis will be prevented.
3. Children are as apt to suffer from dental sepsis as adults.

There are two injurious factors, the germs and their toxins, and too little attention has been paid to the latter. Very often the balance of the digestive system will be restored by oral prophylaxis. Products

of decomposition are either absorbed into the lymph or blood or swallowed and sudden recoveries by patients would suggest that we are dealing with a chemical agent and not living organisms.

The stomach receives the largest share of infective material, and the hydrochloric acid of the gastric juice is a very weak defense. The constant swallowing of the products of oral sepsis may seriously interfere with digestion.

No man can immunize himself to his own dental sepsis.—*Proceedings of the Royal Society of Medicine,* March, 1928.

A PLEA FOR MORE RADIOGRAPHY

By S. Wallman, B.A., D.D.S.

Many patients think that because a tooth is to be extracted there is no need for an x-ray, and from the mutilated cases that come to a specialist's office it is evident that some dentists are of the same opinion. A dentist who attempts to remove a tooth or root without an x-ray is operating blindly. The roots may be twisted or exostosed and consequently a seemingly simple operation may turn out to be a failure. A good radiograph may prevent a great deal of unnecessary trauma and subsequent infection.

An x-ray is important in cases where there are granulomas. Blind curettage is just as dangerous as blind extraction, for infectious material may be forced into healthy tissue. Teeth to be used as abutments should be x-rayed to ascertain whether they and the supporting parts are in condition to stand the strain. Edentulous cases should be radiographed to make certain that there are no buried roots, granulomas nor cysts.

A good radiograph is the best defense in a lawsuit and for that reason x-rays should be taken before extracting a tooth, before preparing a cavity, before preparing an abutment, and before making dentures. —*The Dental Outlook,* April, 1928.

ADVANTAGES OF REMOVABLE BRIDGEWORK

By Irvin H. Ante, L.D.S., D.D.S.

When used with intelligent discrimination and good judgment, and when built and adapted with skill, removable bridgework possesses a great many features of advantage. These are as follows:

1. The replacement of missing teeth may be combined with the restoration of lost tissue in a manner that meets the highest requirement of sanitation.

2. The normal functioning activity of the abutment teeth is restricted to a minimum extent only.

3. A minimum of contact with the mucosa and a minimum of mechanical encumbrance are required.

4. The underlying mucosa is stimulated to functional activity by intermittent pressure from the saddle.

Generally, removable bridgework is indicated wherever fixed bridgework is not indicated, or, specifically, whenever fixed bridgework is contra-indicated. Indications for the rational use of removable bridgework embrace the following classes of cases:

1. When the number of missing teeth to be replaced greatly exceeds the number of remaining teeth which may be used as abutments.

2. When the distribution of the abutment teeth is unfavorable to the mechanical requirements of a fixed structure.

3. When the restoration of lost tissue demands the use of a saddle, and when the requirements of sanitation demand a removable fixture.—*Dental Items of Interest,* April, 1928.

THE PATHOLOGY OF THE MAXILLARY SINUS AND ITS MANAGEMENT FROM THE DENTAL ORAL SURGEON'S POINT OF VIEW

By T. A. Hardgrove, D.D.S.

The consideration of the diseased maxillary sinus resolves itself largely into a study of the mucosa of the cavity. The antrum is lined with a stratified columnar ciliated epithelium in which are located mucous goblet cells, loose connective tissue and lymphoid cells.

Any operation for the relief of maxillary sinus infection should be so planned as not to interfere with the mucosa on the antrum side of the nasal wall, because it is here that the special tissues are most abundant and by their destruction there is less chance of obtaining normal function after the operation.

Ciliated columnar epithelium and other special tissues mentioned above will not be regenerated.

The opening should be made at the lowest part and should be no larger than is necessary to accomplish the desired result.

The cautery, together with the use of radium, will overcome malignancy in the antrum if it is detected at an early stage.

If the opening is made in the canine fossa, it should be carried posteriorly rather than anteriorly. In this way the nasal mucous membrane is not disturbed.

In cases of extraction, when the roots of the teeth endanger the maxillary sinus, the flap operation should be the one of choice. In this way a clear field may be observed.—*The Journal of the American Dental Association,* April, 1928.

DENTAL LAWS

Bill Before the French Senate

(We are publishing the reasons for a bill which has been introduced into the French Senate, and which our Paris correspondent assures us will pass at the next session. In view of the agitation in this country to make dentistry a branch of medicine we feel sure that it will be of interest to our readers, especially since one of the advantages claimed in France is that it will permit the medical man to practice dentistry. —The Editors.)

Appendix to the Minutes of the Session of December 6, 1927.

BILL (PROPOSED LAW)

Whose Object is to Modify the Law of December 30, 1892, on the Practice of Medicine

Introduced by
Senators Milan and Rio

(Referred Back to the Committee on Education)

REASONS

Gentlemen:

Complete medical studies, sanctioned with the title of doctor of medicine, constitute the minimum of general medical culture indispensable to the practice of all branches of the art of healing. The dental art can no longer escape this requirement.

The desire for autonomy, which tends definitely to separate the dental art from the medical art, is only the heritage from an epoch when this art was practiced by means of, and following, a purely mechanical conception; all this without an understanding of the complexity of morbid conditions to which equally rudimentary therapeutics were applied.

The law of the 19th of Ventose, year XI, contained no mention of the dental art. According to the decree of the Court of Amiens, confirming in 1846 that "the law of the 19th of Ventose, year XI, is not at all applicable to dentists," quack doctors became so numerous and so seriously menaced public health that the lawmaker had to intervene in 1892.

Before placing this specialty in the hands of doctors of medicine the law of November 30th decreed that it should be reorganized within a certain period, and with this in mind the diploma of surgeon dentist was created. Preparatory reports and discussions before Parliament have emphasized the provisional character of this legislation.

The lawmaker therefore understood perfectly the danger of a definite autonomy of any branch whatsoever of the art of healing, as such autonomy might seem in the future as a wedge for the progressive disintegration of medicine.

Today stomatology has become a very broad specialty; it encroaches upon the domain on all sides of the dental art, and it is necessary for the protection of the public health that the general preparatory studies for the care of the mouth and teeth shall be identical with those required as a foundation for the other medico-surgical specialties, and which no one thinks of disputing.

There are no fewer connections between the morbid conditions which authorize the work of the surgeon, that of the ophthalmologist or the ear specialist, and the general condition than between the morbid conditions which the stomatologist must interpret with an eye to the general condition, before treating them.

Buccal pathology, in each of its manifestations, requires a research of remote causes, and, inversely, numerous diseases of the mouth play an important role in the origin of general maladies.

Since 1892 the evolution of medical science has worked a veritable transformation in the art of healing. Dental art alone, in the special conditions which surrounded it, has been unable to make as rapid progress as other branches of medicine. Surmounted with problems, mostly technical, it is now confronted with pathological and therapeutical problems which it cannot solve.

We must therefore conclude that the surgeon dentist is necessarily powerless and will become more and more so if he does not apply therapeutics which are beyond his understanding or dangerous, if he does apply them. The same observation applies, moreover, to the use of toxic medicaments.

The time has therefore come to require complete medical studies for the practice of the dental art.

To change the present law on surgeon dentists again, without going as far as the degree of doctor of medicine, would not meet the requirements of public health just demonstrated. Moreover, from the fact that a partial reform would be simply a stop-gap and would retard the only necessary solution, we must insist upon the illusive character it presents.

It is not a matter of increasing, with a more or less questionable dosage, the theoretic medical knowledge of surgeon dentists, but of

making of the latter real physicians who approach their specialty with medical culture, mentality and learning.

If stomatology is to be introduced in medicine, and if the practitioner who wishes to specialize in it is to be a doctor of medicine, it is not less necessary that all doctors should have a knowledge of stomatology, if only because of the extreme frequency of bucco-dental affections and the resultant serious complications, and the incalculable services they could render to the people in rural and urban sections.

No objection of a serious nature can be made to the stomatological thesis, and those who desire to keep a restricted diploma really object only to the possible effect it might have on the number of practitioners necessary for attending the population.

This objection is open to discussion.

The present surgeon dentists will evidently retain all their rights to the practice of their profession. Moreover, during a certain period, let us say four years, the studies for surgeon dentists may continue to be pursued in accordance with the present régime. Taking into consideration the duration of the studies, the transitory period would last therefore a minimum of nine years.

This period will permit a progressive adaptation of the number of specialized doctors to the requirements of public health.

During the forty years numerous specialties have been created or developed: surgery, gynecology, oto-rhino-laryngology, ophthalmology, radiology, electrology, stomatology itself to the extent permitted by the existence of surgeon dentists, etc., etc. It is a fact that the recruitment of specialized doctors has not fallen below the requirements, and that it has in no way acted to the detriment of the other branches of medicine.

It is certain that once the obligation of a doctor's degree has been voted, a large number of students of medicine will take up stomatology. This number is already increasing with each year. How much more will it increase when the reform has made away with the last prejudices which still lead away from this specialty, and when again open to medical activity it will offer an outlet where success will seem both more certain and more rapid.

Another of the most important sources of recruiting will be found at the very spot where the surgeon dentists would be recruited, the Bachelor of Arts degree being demanded now by those in favor of a restricted diploma.

In truth, the problem is not so much one of quantity as of distribution.

More so than the doctors, the surgeon dentists crowd to the big cities, and the sharp competition they make one against the other—proof of which is furnished by the publicity methods they use—shows

well the disproportion of their number as against the number which a sane stomatological medicine would require.

That there are not enough dentists in certain places is possible, but how is the overplus in large cities to be turned back there? That is a social and economic problem, not a medical problem. We consider that only the stomatological solution as a whole will serve to solve it.

In fact, as soon as all doctors possess the essential general knowledge of stomatology, the country doctor serving very small districts, as he does, in fact, for the greater part of medical specialties, will add more and more to his practice the more general stomatological interventions. It is certain that his efforts will be directed toward stomatology rather than toward the other specialties, as he will be certain to find there quite important supplementary fees. In country places where life is difficult for the doctor, where a dentist particularly could not live, the doctor doing a little in stomatology will be able to make a living. Doctors and inhabitants of towns and country places cannot but recognize the advantages of the new conditions.

To sum up, there are two opposing ideas:

One, held by the odontologists, centers around the term *dental art,* which it considers as an almost completely rounded-out specialty, and is interested in tendencies which are above all technical. If it considers the necessity of a general culture, it is by limiting it strictly to what is immediately indispensable to technical applications.

The other idea, which is one held by the stomatologists, considers stomatology as a specialty, still undeveloped, which absorbs and overlaps the dental art and can be developed only by being incorporated in the medicinal art. For these the technic cannot, any more here than in any other specialty of medicine, constitute an end but a means.

Conclusion

For the reasons outlined in this exposé, public interest demands that, in view of the progress of the science, full medical studies be required for the practice of stomatology, and that the legal regulations covering the dental art be abolished. The same general knowledge will thus be required in the future from all practitioners of the art of healing.

PRACTICAL HINTS

This Department is now being conducted from the office of The Dental Digest. To avoid unnecessary delay, Hints, Questions and Answers should be addressed to Editor Practical Hints, The Dental Digest, 220 West 42d Street, New York, N. Y.

NOTE—Mention of proprietary articles by name in the text pages of THE DENTAL DIGEST is contrary to the policy of the magazine. Contributions containing names of proprietary articles will be altered in accordance with this rule.

Editor, Practical Hints:

I am having a very difficult case to contend with and I am seeking advice. I have practised for 10 years and in the meantime I have made a great many plates, but none has equalled this one. The condition is this:

It is impossible even to get an impression of the upper arch without gagging. After the plate is finished, it is impossible for the patient to wear it any length of time without gagging continuously. I have tried tea leaves on the palate and every thing else I can think of, with no success. Can you suggest any remedy?

D. C. B.

ANSWER.—If a patient gags when wearing a plate, the inclination on the part of the dentist is to trim away the plate and so relieve the area. This should never be done.

The plate should be extended further back and postdammed, so that at all times it maintains a firm contact with the palate. Then when the gagging commences, have the patient close the mouth firmly and take several deep breaths through the nose. If this is kept up for an hour, the patient will have little difficulty in the future.

Editor, Practical Hints:

I am forwarding to you casts of upper and lower jaws of a patient 17 years of age. The occlusion is as marked on the casts.

The condition to which I wish to call your attention is the marked hypertrophied condition of the gums in the upper jaw. It is especially marked in the anterior region. The patient reported with marked in-

flammation of the gums, but there was not much soreness. Prophylaxis has been done and instruction has been given on the care of the mouth. I saw this patient for the first time yesterday, therefore I do not know whether or not the treatment I gave will improve the condition. I have had similar cases before, but prophylaxis treatments did not clear them up. I have never tried resection of the gums, but I was wondering if that would not be the thing to do.

If you will kindly give me the method of treatment which is best indicated in a condition like this, I shall greatly appreciate it.

E. J. M.

ANSWER.—I doubt if any local treatment such as prophylaxis will have any permanent result, since it seems to me that the trouble is due primarily to the malocclusion. The lower impression was so badly drawn that the exact positions of the anterior teeth are not clearly defined.

The case calls for an expansion of the upper arch and the placing of the teeth in as nearly normal occlusion as the mutilated condition of the dentures will permit. Then the hypertrophy due to lack of normal function will disappear.

Editor, Practical Hints:

I have a little problem which is worrying me. A woman, about 40 years old, has a lower first bicuspid absolutely sound which causes her a lot of pain in *one* way.

If anything, even a soft piece of bread, troubles it on the buccal side, it hurts terribly. Just putting her hand against her cheek on the outside will hurt it.

One can press the tooth on the occlusal or from the lingual and it won't hurt—only from the buccal. X-ray picture shows everything to be apparently normal. Her teeth are a little crowded, with the bicuspid leaning a little lingually. The picture doesn't show any pulp stone.

H. H. T.

ANSWER.—From your description it would seem that you had to deal with a case of inflammation of the peridental membrane. You say that the tooth is inclined to the lingual and consequently the pressure of the upper jaw tends to drive it still further in that direction.

I would grind the upper tooth until there is no contact when the jaws are in occlusion, and I think that in the course of time the condition will clear up.

Failing in this, I can see nothing to do but to extract the tooth.

Editor, Practical Hints:

I am sending you two teeth, first and second right upper molars, which I extracted for a young man about 21 years of age. The patient had never had any pain from them at any time. His mouth was in very bad condition—teeth full of cavities, gums puffy and soft. I advised extraction and having plates put in, because he never took any care of his teeth.

Upon extracting these two I found that the first molar roots had been entirely resorbed. In the second molar two of the roots were in process of being resorbed. I examined the sockets thoroughly and could not find any roots or crowns of other teeth under them. Could you tell me what caused this condition?

R. H. T.

ANSWER.—The finding of teeth with roots that are not of normal size is not an uncommon occurrence. One reason is that something stimulates the osteoclasts with the result that the bone is absorbed. Another cause, and one which I believe to be more common, is that because of some fault in nutrition or metabolism the roots are never fully formed.

These are the only factors I know of which would bring about the condition you present.

Editor, Practical Hints:

About three weeks ago I made an upper vulcanite denture for a man who had natural teeth below, except that two molars were missing on one side. This denture snapped into place perfectly and he was not in the chair three minutes. Now, at the same hour the next day he came and said that they fitted perfectly—had not had them out since I put them in—paid for them entirely, and there were no sore spots.

He now comes to me and complains of a slight rocking from side to side and threatens to make trouble for me if I don't make a new denture. I have trimmed one side twice, slightly, where the rim went too high and caused a sore spot, but even with pressure on the extreme incisal edges the plate does not tip down at the heel and by the incisors the head can be actually forced with force from side to side. He shows no rubber at all.

What can I say to this man, as I think it is as good as can be done by any man?

J. E. W.

ANSWER.—I agree with you that you have done as well as any man and better than most. The trouble is that you did not clearly give him

to understand what would happen before you started. This is an all too common mistake.

Just as soon as a plate is inserted, absorption takes place to a greater or less degree, according to the condition of the tissues. The tighter the plate is, the quicker this will start. If a plate is rebased to its original tightness, it will gradually loosen until an equilibrium is established. This has been definitely proved by Rupert Hall.

If you cannot make your patient see this, I would refuse to make over the plate, but would offer to take it back and refund the money. Let him go to someone else, for no plate will retain its original fit, and the more you make it over, the more money you will lose. If you take this attitude, he will probably become more reasonable.

Editor, Practical Hints:

Can you tell me the best way to replace the old rubber with new on a denture? Some people boil the flask, or say they do, but it seems difficult to get the rubber off this way.

I have a dry heat sterilizer which runs to 350°. Would that be a practical scheme to heat up the flask?

I have in mind an "ad" of a certain firm which duplicates the rubber in a plate or replaces the rubber with porcelite. All that is necessary is to send an impression and the old plate. May I ask what their method is?

V. H. M.

ANSWER.—There are several methods of duplicating plates, and I do not know which one is referred to in the advertisement. However, the following is a very good way:

Take an impression of the mouth and pour a model. Mount this model on an articulator with the plate in position and for the opposing side use wax or modeling compound, in which is registered the plate bite. In this manner the relationship of the two jaws is maintained.

The teeth are then removed from the old plate and placed in the impressions. A baseplate is made and the case is waxed up and carried through in the ordinary manner.

One of the best methods for removing the teeth from a rubber plate is to fill the bottom half of an old flask with any dry, coarse investment material. Set the plate in this with the teeth down and heat with a low, slow flame, just enough to soften the rubber but not enough to burn it. When it is exactly the right temperature, the teeth can be pushed off with a pointed instrument in a few moments.

DENTAL SECRETARIES and ASSISTANTS

Secretaries' Questionnaire

All questions and communications should be addressed to Elsie Pierce, care of The Dental Digest, 220 West 42nd Street, New York City.

NOTE—Have you a better way? Have you a time-saving short cut? Do you know a "stunt" that lightens the work or makes for efficiency in the office? If so, write to Elsie Pierce, care The Dental Digest, 220 West 42nd St., New York. You may help a number of girls who are just beginners—and you know how you needed help during your first few months in a dental office. Or if YOU need help now write to Elsie Pierce—she'll help you.

Dear Miss Pierce:

Will you kindly help me in reference to where and how I can get some information as to how much of an education I need to be a dental hygienist. I have been working in a dental office for a year and have found it very interesting. I should like very much to be more of a help to the Doctor. I am a graduate of a business college.

I wish to express my appreciation for all the help you have given me through the Questionnaire.

I. G., Brooklyn.

Answer—In order to enroll as a student for a course in dental hygiene, you will have to have a high-school certificate or its equivalent. In most of the dental colleges the course covers one school year. However, there is some consideration being given by some of the colleges to increasing the length of the course. At the University of Minnesota the course covers two school years. In the September, 1927, issue of The Dental Digest you will find a list of schools giving training for dental hygienists. A letter to the Dean will bring you whatever information you desire.

We are pleased to know that the Questionnaire has been helpful to you.

Dear Miss Pierce:

I have been a dental assistant for a number of years. I should like very much to join the dental assistants' association and should very greatly appreciate any information you can give me.

I read your column every month, and I certainly think we dental assistants are fortunate to have your column to turn to with our problems.

M. R., Brooklyn.

ANSWER—Every month our department receives requests similar to this one. May we suggest that dental assistants desiring to join the Educational and Efficiency Society for Dental Assistants get in touch with Miss Robina A. McMurdo, President, 140 East 80th Street, New York, or Miss Hattie Gaenssle, Corresponding Secretary, care of Dr. Zuelch, 80 Hanson Place, Brooklyn, N. Y.

An account of the meetings of this Society is published each month in THE DENTAL DIGEST, also in the Bulletins of the First and Second District Dental Societies, New York. If the dental assistants who are interested will attend a meeting, first-hand information can be obtained. These meetings are held at the Academy of Medicine, 103rd Street and Fifth Avenue, New York, on the second Tuesday evening of each month, at eight o'clock, from October to May, inclusive.

We appreciate your kind words about the Questionnaire and are glad it has helped you.

Dear Miss Pierce:

I wish you would tell me what to do to clean the white rubber mat on the footrest of our dental chair. I have tried warm soapsuds, but the dirt seems to be ground in, and they have little effect.

The arms of the chair also are stained from perspiration. Is there anything I can use to help this? The arms are of some dark material, and the stains take on a greenish appearance.

May I tell you that your department is very interesting? It is the first thing I turn to when the magazine comes into the office each month. I think the dental assistants owe you and THE DENTAL DIGEST a deep debt of gratitude.

A. T., Minnesota.

ANSWER—Remove the white rubber mat from the footrest to the laboratory bench or some other convenient place to work, then with gasoline and No. 00 sandpaper carefully remove all traces of dirt which has been ground into the fabric, finishing off with Dutch Cleanser or similar material and warm water. I think this will accomplish the

desired results. Be sure that there are no open fires nor gas flames burning while you are using the gasoline.

The chair arms are probably of a composition containing rubber. Try wiping them off with a household ammonia solution, not too strong.

Many thanks for your appreciation of the department. It is our desire to make it interesting and of value to all dental assistants.

Dear Miss Pierce:

I should like to make a suggestion or two that may help some of your readers in exchange for the many valuable suggestions I have received in the Questionnaire.

I know that the bugaboo of many assistants is the nickel in the office, for when the nickel is dull all the equipment looks unkempt, and very often the assistant is too busy to spend much time polishing every day. I have found that after a thorough polishing, if the nickel is wiped over with a soft cloth which has been dipped in lubricating mineral oil, this protecting film of oil helps to keep it bright for quite a long period, as it prevents atmospheric conditions from tarnishing it.

Another suggestion—to prevent mouth mirrors from becoming fogged, smear the surface with a thin layer of glycerine and wipe off with a sterile piece of gauze until clear and bright.

A suggestion that will please the patients: Place a small piece of wet sterile gauze over the end of the saliva ejector, thus preventing the soft tissues from being drawn into the opening, obviating an unpleasant sensation as well as clogging.

A. B. C., Mass.

Many thanks for these suggestions. We are sure they will be helpful. We hope we shall hear from you again.

Educational and Efficiency Society for Dental Assistants, First District, New York, Inc.

The Educational and Efficiency Society for Dental Assistants, First District, New York, held its Annual Meeting on Tuesday, May 8, 1928, bringing to a successful close another year of achievement in its efforts toward education and professional recognition for the dental assistant. During this past season, as heretofore, the Society has adhered to its high ideals and principles and has lived out its motto, *Greater Education for Greater Efficiency,* by the conduct of classes and clinics on every phase of dental assisting.

The Annual Dinner took place at the Hotel Astor on Saturday,

April 28, and was a very successful function, being well attended by members of the Society and of the dental profession. The guest of honor was Dean R. D. Thornton of the Dental School of the Medical College of Virginia. It is in Dr. Thornton's school that the first course for the training of dental assistants in the United States has been installed, and the Dean is heartily in favor of the efforts of this Society in its endeavors for education. Sophia P. Harned, M.D., was among the speakers, taking as her topic *Education Along Preventive Measures.* Other speakers were Dr. Alfred Owre, Dean of Columbia University Dental School; Dr. James A. Brady of Philadelphia; Juliette A. Southard, President of the American Dental Assistants Association, who spoke on *As It Seems To Me;* and Dean Marshal S. Brown of New York University Dental School. Dr. George Wood Clapp, Editor of THE DENTAL DIGEST; Dr. Henry Fowler, Honorary Member of the Society; Mrs. M. Hillman of the Philadelphia Dental Nurses Association, Agnes F. MacNeil, Trustee from the Second District, American Dental Assistants Association, and Henrietta Boyd, President, New York Dental Hygienists Association, were also present and spoke a few words.

Members of the Clinic Club presented demonstrations on first aid and short cuts to efficiency before the meeting of the New Jersey State Dental Society at Asbury Park, N. J. On May 17th and 18th clinics on oral surgery assistance, first aid, and a library exhibit were given at the meeting of the Dental Society of the State of New York at Syracuse, N. Y. Delegates from the Society were present at a meeting of dental assistants to form a New York State Dental Assistants Society, when an excellent program was presented. The Society will participate in clinics to be presented before the American Dental Assistants Association at its annual meeting at Minneapolis, Minn., in August.

A class in public speaking and parliamentary procedure is now in session, holding its meetings each Friday evening. The work of the class includes the preparation of short essays on topics pertinent to dental assisting as well as current events, the presentation of these topics, and debates. Strict parliamentary procedure is observed at each session, and the members in turn are afforded the opportunity to preside and through actual experience become better versed in the art of parliamentary procedure. During the season just closed the Society has conducted for its members, under the supervision of competent members of the dental profession, classes on diet, radiology, accounting and bookkeeping, practical psychology, laboratory assistance, a proper method of brushing teeth, administration of nitrous oxid gas, and the care of dental equipment.

The officers of the Society for the ensuing year, as elected and installed at the May 8th meeting, are: President, Robina A. McMurdo;

Vice-President, Mae E. Quinn; Recording Secretary, Anna Daum; Corresponding Secretary, Hattie Gaenssle; Treasurer, Sylvia Danenbaum; Registrar, Martha Keit; Directors, Juliette A. Southard, Emily C. Clifford, and Martha Hall.

Montreal Dental Assistants Association

The Montreal Dental Assistants Association held its annual meeting at McGill University Dental Department on April 16, 1928. Miss Ruth Firth, president, was in the chair.

In her annual report Miss Firth congratulated the society on its past achievements and felt confident of still greater accomplishments in the future. She also thanked all those who had helped to make the work of the Association successful and appealed to the members for continued cooperation.

Election of officers took place, and a vote of thanks was unanimously passed to the retiring board.

A resolution was passed requesting all dentists in the city to urge their assistants to join the M. D. A. A., in the interests both of the profession and of the public at large.

High Lights of Parliamentary Procedure for the Dental Assistant*

By Mary E. Clotworthy, Pittsburgh, Pa.

To present a paper to an audience such as this is indeed a great pleasure, and while my subject is a broad and rather difficult one, I shall try to impart to you a few of the most important high lights of parliamentary procedure for dental assistants.

When we say *parliamentary procedure,* we mean the carrying on of any meeting or business in an orderly manner. To the assistant it would mean the carrying on of her duties in the office and the way she conducts herself.

Each day in the office is to the assistant as any great meeting is to the president of an organization. The assistant is vice-president, acting as president when the rightful officer is busy. She must, like any business woman, learn to develop a sense of respect. She must show respect and be loyal to her dentist, and that means being loyal to herself and

* Read at the Third Annual Meeting of the American Dental Assistants Association, Detroit, Michigan, October 26, 1927.

everything that is fair and honest. To develop this sense of respect, she must combine all her possessions of likes, dislikes, education, mind and body, and heart. In other words, she must develop personality.

Just what is personality? One author says, "Personality is the very essence of ourselves that is portrayed without speech or movement."

The assistant must take the responsibility of running the office in a dignified and efficient manner. She must be alert and observing. In fact, in her organization she must be vice-president and secretary and treasurer, and with all these offices her duties become very important. As vice-president, she acts as president when the doctor is busy; as secretary, she must attend to all matters, such as communication with patients and other matters of the business; as treasurer, she must attend to all the financial affairs of the office. She must be pleasant and diplomatic about all these things, and the patient will react toward her in the same manner. All business transacted in the office, whether financial or otherwise, should be strictly confidential.

James MacEvoy, in a parody on Kipling's *If* says:

If you can lock your heart on confidences
And never needlessly confide,
If you can put behind you
All pretense of much humility and foolish pride,
If you can keep the simple virtue
Of walking right with others, then have no fear
That anything in all the world can hurt you,
And what is more, you will be trusted, dear.

To be of value is the ambition every assistant is striving for. Then she must do things not because they are a duty, but she must cultivate enjoyment in her work. In order to accomplish this usefulness she must work toward achievement, not for her own personal glory but for the satisfaction derived from doing the things well which she knows are difficult and are of service to others.

A doctor corrected his assistant because he thought she was too dignified in her work. He told her that patients did not like to see her so dignified because they thought it took away from her pleasant attitude. But there is a great deal of difference between professional dignity and an unpleasant attitude. The assistant's attitude is probably her greatest high light, because she can either make or break her future by the way she first impresses a patient. I am sure every assistant here is cheerful at all times, but she could not help but be if she keeps in mind that:

The thing that goes the farthest toward making life worth while,
That costs the least and does the most is just a pleasant smile.

The smile that bubbles from its fellowmen
Will drive away the clouds of gloom and coax the sun again.
It's full of worth and goodness, too, with genial kindness blent,
It's worth a million dollars and doesn't cost a cent.

Every courtesy should be shown the patient, and the assistant will herself reap the harvest. She will see that her efforts are worth while, and that both the patient and the doctor have benefited by her tactfulness and pleasantness. She cannot help but succeed if she plays fair with all her strength of mind and body and keeps striving toward a higher ideal.

In closing, I think it would be well to take with each and every one of us a creed by the well-known American author, Edgar A. Guest. It is called *My Ideal.*

"To live each day as tho' I may never see the morrow come; to be strict with myself, but patient and lenient with others; to give the advantage, but never ask for it; to be kindly to all, but kindlier to the less fortunate; to remember always that my life is made easier and better by the service of others.

"To be tolerant but never arrogant; to treat every one with equal courtesy; to make as much as I can of my strength and the day's opportunity.

"To be friendly and helpful wherever possible; to do, without display of temper or bitterness, all that fair conduct demands; to govern my actions so that I may fear neither reproach nor misunderstanding nor words of malice or envy, and to maintain at whatever temporary cost my self-respect.

"This is my creed and my philosophy. I have failed it often and shall fail it many times again; but by these teachings of my mother and father I have lived to the best of my ability, laughed often, loved, suffered, grieved, found consolation and have prospered. By friendships I have been enriched and by these my life has been a happy one."

1542 Beachview Avenue.

DIETETICS and HEALTH

Wednesday Afternoon

By Royden E. Tull, D.D.S., Rockford, Illinois

The day as I arise is gloomy. The wind, with a sound like that of many people rushing voicelessly along a pavement, is driving rank after rank of dirty-looking grey clouds across a leaden sky. There is more than a hint of rain in the air. Apparently nature is in one of those rare moods of revolt that overtake her in the full delight of her June festival. Gone are the brilliant sun, the balmy breeze and the soft enchantments of yesterday.

My first conscious thought on awakening had been a vague impression of happiness—some dimly understood, half-recognized event to come was pervading my whole being with the warmth of anticipation. But as I dress and watch the lowering cloud-wrack in endless procession, all complacency and anticipation leave me. I am my accustomed self, a dentist gone grouchy over long winter hours of fatigue, confinement, eye strain, and the mental exhaustion that comes from overwork.

And then I remember why my awakening had been so pleasant. This afternoon is to be the first of my Wednesday afternoon summer half-holidays. And I had planned to go fishing! The bass season is open. I know a number of small, largely neglected streams not too far from home where I can almost be sure to encounter two or three of those gallant warriors of whom the reverend Dr. Henshall said: "Ounce for ounce and pound for pound, the gamiest fish that swims!"

But I must dress. Breakfast must be endured while I pay as little attention as is possible to the irritating eccentricities of the other members of the family. Then to the office, where the usual sequence of querulous and occasionally hypochondriac patients must be met with a smile and sent on their way rejoicing.

Maybe you recognize the symptoms. Maybe you, even with all your vitality, resistance to bad air, confinement, nerve strain, unwise food, late hours, and all the other minutiae that go to make up your daily round, have felt just that way. Maybe you did not recognize it for what it was. Maybe you placed all the blame on the other fellow. Nothing in our actions or physical or mental condition could possibly

account for the disagreeableness of other people—not in a million years! They're just "ornery."

I do not think the professional man ever lived who, if he worked hard at all, didn't get that way. It is bound to come. And then there is only one thing to do, that is, to take a vacation. Get out alone, or with only a small party of congenial associates, and let the healing balm of nature and the peace of nature's God permeate all your being and restore jangled nerves and burned-out cells.

Not even the weekly half-holiday is enough, and it is distressing to think of the thousands of otherwise knowing professional men and women who do not take out even this insurance. I mean *insurance*. And it is more than life insurance; it is income, health, and happiness insurance. It costs money? Sure, it costs money! But so do physicians, hospitals, and undertakers. I should much rather pay the sporting goods dealer fifty dollars for a sweet little fly rod, with all the action and beauty one can imagine, than to pay a physician ten dollars for a lot of ill-smelling and worse-tasting stuff made necessary by my total neglect of all the rules of good health and common sense.

Breakfast is faintly endurable, and I start to walk the twenty-odd blocks to the office. Why does that oriole have to make such a noise in yonder tall elm? One would think he would have a little respect for the decencies, that he would consider that there might be others who did not feel so happy, who might not be appreciative of such levity.

But as I walk on, it seems that the clouds are clearing away. The wind is lessening. There is a more grateful feel to the air. As I pass a little park near the building housing my office, a brilliant ray of sunshine plays as if from a spotlight upon the top of a near-by tall tree. And there, on the topmost branch, is an oriole, his radiant plumage glittering in the bright beam, singing with all the joy of his gallant little heart. What a beautiful and inspiring melody he has! To think that some people do not like to hear his cheerful notes!

Weather conditions continue to improve as the morning passes. My patients are unusually pleasant, considerate and agreeable, so the time goes rapidly until noon. Flies, rods, long rubber boots, and other impedimenta are quickly placed in the car, and Jack and I are on our way. Jack really deserves a story all his own. He is one of those congenial souls who are always in a good humor. *Nothing* ever bothers *him*. On a camping trip it is not necessary to tell him there is wood to be cut, water pails to be filled, or any of the thousand and one things that go to make up the routine of living in the open.

And so to Beaver Creek! I have drawn the down-stream waters and wet my first fly among the sods that have fallen at the foot of a high-cut bank. The lure lights on the exposed edge of the mass and is deftly jumped into the eddy below, where the fish like to lie in wait for just

such morsels or for any tidbit that might be carried there by the current. Seldom has this stretch failed to bring a nice trophy to my net, but this day the Red Gods are not with me. Almost the entire stretch is fished before there is a strike. It is but a small one. However, the hook is barbless, so with moistened hands I remove him and return him to the water without harm. True, he has been hooked, but only in the harder part of the mouth, and the hole is so small that it will heal with no discomfort to my victim.

Next comes a great pool with stumps lying therein, tree-over-hung and enticing in its cool depths. If one is lucky in placing the fly without entanglement in the overhanging branches, there are the submerged ones and the invisible roots. All the most likely spots are doubly protected and are difficult of access. And if a big one is hooked, the conditions are ideal for him to break one's line after he has entangled it in one of the many obstructions.

However, that is part of the game. None of us, I think, greatly desires those things which come to us too easily, either in sport or in business. It may be we think we do, but it is certain that appreciation increases in direct ratio to difficulty of attainment. This pool is the favorite of all the pools I know, but today it is barren.

No, I will not accept that alibi. I *know* there are fish here; I will change flies and try it again. Something is wrong. In spite of frequent changes in the offering I do not get a rise. Well, I have not presented them in just the right way, or maybe I have made too much noise, or my shadow or that of my rod has fallen on the water. Maybe the sun reflecting from some polished surface has heliographed the warning. Whatever the reason, it is of no profit to spend more time in this spot.

Next comes a swiftly running rapid interspersed with boulders, around which are deep, quiet, little pockets that are ideal for the quarry I have in mind. The fly is dropped carefully above the boulder, so that it will float naturally down toward and around old red-eye's resting place, just as an insect would do if it were caught in the pellucid flood.

With what care and anticipation do I play that whole stretch! At every cast I expect to see the mighty swirl as the finny beauty rises viciously. My ears are ever alert for the soul-stirring swish of his mighty tail as he rushes to the surface, turns, and darts away. My brain and muscles are attuned to that instant coordination demanded if the hook is to be set before my wily opponent discovers the artificiality of the lure and has successfully shaken it from his mouth. All these things can happen in an almost immeasurable instant of time. The strike of the rod must anticipate the actual contact between fish and hook, and the left hand must be ready for the immediate taking up or playing out of the line to meet the direction of his rush. But a black

bass will invariably make his first rush against the current, so one is forewarned.

Two or three little fellows are hooked and released. One questions just what would be done if it were not for a desire to obey the law or a fear of what would happen if a warden caught one with undersized fish. I do not know, but there is something that demands the instant return, with as much care as possible, of these little beauties.

The day wanes. Not a single fish of sufficient size has been taken. Fifteen or twenty little ones, yes, but where are those others one knows are in this stream? The sun is sinking below the tops of the trees in the blaze of glory that only June knows. How good it is to be alive and to be able to get away from tall buildings, smoke, dust, noise, and all irritating contacts, to be privileged to revel in all this peace and beauty!

It is fast getting dark. Here is that wide, long, shallow reach, full of boulders, known to harbor many soft-shelled crabs, than which there is nothing more whicher in the estimation of a small-mouthed bass, hungry or not. It is barely possible they are feeding here now. It is almost too dark for fly casting. It will be difficult to see just where the fly falls or to know just when to strike if one should get a rise.

There he jumps! Oh, what a dandy! Strip off the line. Make the cast. What matter if one cannot see! What matter if one does connect with rock or snag that will wreck the tackle! This cannot be passed by. Carefully! Carefully! Just as near to that big stone as is possible, so that the fly will float over the most likely spot for a feeding bass.

Oh, boy! See that? Gosh, what a lunker! By the three-horned ram of Rameses! He has leaped clear of the water and caught the fly in the air! Holy mackerel, how he pulls! Look at that rush! Will the thin gut I have been using because of the excessive clearness of the water hold? The line fairly smokes through the water. See him leap, turning clear over in the air, shaking his head in an effort to dislodge the hook he knows so well spells capture. For minute after minute he pits all his strength and all his dearly bought cunning against the beautiful resiliency of the inexorable rod. Extravagance is justified by this one exhibition. Only such a perfect tool could give victory, a victory accompanied by such soul-stirring thrills.

At last he is lifted from the water, his bright red eyes and opalescent scales glowing in the luminous dusk. But there is little time to admire his beauty, much as one would like to. He is at least sixteen inches long, and there are other of his mates feeding in the hundred yards of this particular stretch. Duty calls, so into the creel he goes. Gosh, my hands are shaking! Must be getting old.

Two more fish are added to the first before it becomes too dark to see rod, line, or water. With profound regrets I trudge wearily but happily toward the bridge and the waiting Jack. I know he will have

fish too, for under his quiet, unassuming, obliging exterior there is a well of quiet determination. And he has a cunning and a patience rarely defeated in the game of wits between fisherman and fish.

He has four. What of those who said there were no good fish so near such a large town? Especially in so small a stream? I sing no saga of record fishes or of large catches; rather I tell a simple tale of quiet enjoyment with thrill enough to interest any real man. We know of many such neglected opportunities. How many men could improve disposition, income, and health by just such explorings as we have been making for several years! There is, for us, no necessity for long, fatiguing, expensive trips to summer resorts for the joy of catching a few fish. And we have the added satisfaction of doing that which cannot be done. There should be a law, or something, compelling folks to enjoy their neglected, near-at-home advantages.

We silently fill our pipes, smoke contentedly for a little, take our places in the car. And so homeward, fortified once more to continue the daily grind in harmony and with profit.

804 Rockford National Bank Building.

EXTRACTIONS

No Literature can have a long continuance if not diversified with humor—ADDISON

The early bird has to get his own breakfast.

WANT AD IN WESTERN NEWSPAPER

Wanted — Experienced salespeople, male or female. No others need apply.

(Customer)—What! Fifteen cents a pound for sulphur! It's outrageous! I can go across the street and get it for ten.

(Druggist)—Yes—and I know where you can get it for nothing.

The school teacher had asked for an instance showing how the physical features of the country had affected our development or history. One bright lad offered the following: "If it hadn't been for the Delaware River Washington couldn't have crossed it."

(Chicago Doctor)—You are run down with overwork or too much exercise. What do you work at?

(Patient)—I'm an anarchist.

(Doctor)—Well, don't throw any more bombs for a week or two. Five dollars, please.

The celebrated soprano was in the middle of her solo when little Johnnie said to his mother—referring to the conductor of the orchestra: "Why does that man hit at the woman with his stick?"

"He is not hitting at her," replied the mother. "Now do keep quiet."

"Well, then, what is she hollerin' for?"

An Arkansas man was stung to death by bees, so you can't blame everything on the night clubs.

(Son)—Say, daddy, who was Hamlet?

(Daddy)—Well, you ought to be ashamed of your ignorance. Bring me the Bible and I'll show you.

"What to Wear at the Bathing Beach," says a fashion note headline. Some one evidently is expecting a cold summer.

(Professor—to student)—Why don't you answer me?

(Student)—I did, Professor. I shook my head.

(Professor)—But how do you expect me to hear it rattle away up here!

A tax cut is the kindest cut of all.

(Newlywed) — This blueberry pie looks queer, dear.

(Wifey)—Oh, honey, maybe I put in too much bluing.

THE PHONE WAY

An Ohio man, who is very religious and also very businesslike, starts his prayers in this manner: "This is Jones speaking."

WOES OF THE CANDIDATE

I threw my hat into the ring,
And cried, "I'll run! That's that!"
I lost the nomination and—
I also lost my hat!

Old Grouch was always complaining about the modern activities of women. "Just see," he said, "the part they are now playing in politics. We will soon have petticoat government in this nation."

"I say, old top," whispered the friend to whom he was talking, "you had better take another look."

Ha! Ha! They are putting Wilson's portrait on the $1,000 bill—where only Republicans will see it.

ALWAYS WITH US!

We all have met those seekers for the light,
Who, being long of zeal and short of sight,
Measure with ropes how moonbeam lace is spun
And use a lantern to reveal the sun.

The cost of living seems to be coming down like the length of women's skirts.

(Willie)—Dad, we learned in school today that animals have a new fur coat every winter.

(Dad)—S-c-h, boy! Your mother is in the next room.

The street cars in an English city bear the sign "Pay as you leave." A Scotchman entered one the other day—and he's riding yet.

FUTURE EVENTS

THE CANADIAN AND ONTARIO DENTAL ASSOCIATION will meet in joint convention at the King Edward Hotel, Toronto, Ontario, June 4-7, 1928.

A most attractive program has been prepared, and the dentists from the United States will be welcomed as guests.

THE SUSQUEHANNA DENTAL ASSOCIATION OF PENNSYLVANIA will hold its annual meeting, June 11-12, 1928, at Sky Top Lodges, Inc., Cresco in the Poconos.

THE MASSACHUSETTS BOARD OF DENTAL EXAMINERS will hold an examination for registration for both dentists and oral hygienists in the City of Boston, Mass., June 12-15, 1928.

All applications must be filed at the office of the Secretary at least ten days before date set for said examination.

Full information, application blanks, etc., may be secured at the office of the Secretary, Room 146, State House, Boston.

THE BOARD OF DENTAL EXAMINERS OF THE DISTRICT OF COLUMBIA will hold its next examination for dentists and dental hygienists, June 12-16, 1928, at Georgetown University Dental School, 920 H Street, N. W., Washington, D. C. For information address:

C. WILLARD CAMALIER, *Secretary-Treasurer,*
406 Medical Science Building, Washington, D. C.

THE TEXAS STATE BOARD OF DENTAL EXAMINERS will hold its next meeting at Houston, Texas, June 18-21, 1928.

THE TENNESSEE BOARD OF DENTAL EXAMINERS will meet at 9:00 A.M., June 18, 1928, at the Dental Department, University of Tennessee, Memphis, Tennessee, for the purpose of examining all applicants who present credentials acceptable to the Board. Hygienists also will be examined.

Bring credentials to the Board meeting for examination by the entire Board.

Applications should be in the hands of the Secretary five days before the Board meeting.

For application and clinical requirements, address:

F. W. MEACHAM, *Secretary-Treasurer,*
911 Hamilton National Bank Bldg., Chattanooga, Tenn.

THE ARKANSAS STATE BOARD OF DENTAL EXAMINERS will hold its next annual meeting at Little Rock, June 18-23, 1928.

THE INDIANA BOARD OF DENTAL EXAMINERS will meet at 8:00 A. M., June 18, 1928, at the State House, Indianapolis, Ind., in the House of Representatives room, for the purpose of examining all applicants with proper credentials. Applications should be in the hands of the Secretary one week before the Board meeting.

For applications, clinical requirements, and other information, address

J. M. HALE, *Secretary-Treasurer,*
Mt. Vernon, Ind.

THE DELAWARE BOARD OF DENTAL EXAMINERS will hold its next meeting in the Municipal Building, Tenth and King Street, Wilmington, June 20-21, from 9:00 A.M. to 5:00 P.M.

For further information, address:

W. S. P. COMBS, *Secretary,*
Middletown, Del.

THE FLORIDA STATE BOARD OF DENTAL EXAMINERS will hold its annual meeting on June 21-23, 1928, at Jacksonville, for the purpose of examining all qualified applicants for license to practice dentistry and oral hygiene in the State of Florida.

For information and application blanks, write

R. P. TAYLOR, *Secretary-Treasurer,*
414 St. James Bldg., Jacksonville, Fla.

THE DENTAL ALUMNI ASSOCIATION OF THE COLLEGE OF PHYSICIANS AND SURGEONS OF SAN FRANCISCO, School of Dentistry, will hold its annual meeting at the College on Friday and Saturday, June 22-23, 1928. Preceding the general sessions there will be six different special courses given, among which Dr. George M. Hollenback of Los Angeles will instruct a class in *Inlays and Modern Crown and Bridgework.*

June 21st will be a day of golf. Luncheons, class reunions and a banquet at the Bohemian Club on Saturday evening, June 23, 1928, will be a part of the social side of the meeting. A cordial invitation is extended to the entire ethical dental profession to attend.

FREDERICK T. WEST, *Chairman Publicity Committee,*
2595 Mission Street, San Francisco, Cal.

THE NORTHEASTERN MASSACHUSETTS DENTAL SOCIETY will hold its fourteenth annual convention on June 25-27, 1928, at the new Ocean House, Swampscott, Mass. All ethical dentists are cordially invited to attend. Best of

clinicians and exhibits, reduced hotel rates, golfing and surf bathing. For particulars, address

HENRY I. YALE, *Secretary,*
Peabody, Mass.

THE OHIO STATE DENTAL BOARD will hold its annual examination the week of June 25, 1928, at the Dental College of Ohio State University, Columbus. Hygienists will be examined on Tuesday, June 26. All applications must be in the hands of the Secretary at least ten days prior to the week of the examinations. For application blanks and further information, address

RAY R. SMITH, *Secretary,*
327 East State Street, Columbus, Ohio.

THE WYOMING BOARD OF DENTAL EXAMINERS will meet in Cheyenne, June 26-28, 1928. Address all communications to:

DR. R. S. MOODY,
Cody, Wyoming,

THE CONNECTICUT DENTAL COMMISSION will meet at Hartford, Conn., June 28-30, 1928, to examine applicants for license to practise dentistry and dental hygiene and to transact any other business proper to come before them.

For further information apply to:

ARTHUR B. HOLMES, D.D.S., *Recorder,*
80 Central Avenue, Waterbury, Conn.

SUMMER SCHOOL FOR DENTAL HYGIENISTS—1928

The six weeks' postgraduate summer course for dental hygienists given at the University of Buffalo for the past two years has been transferred to the Buffalo State Teachers College.

The subjects to be given in the course are such as have been found requisite and desirable in preparing the hygienist to present her work in school and to the public generally. They are: Education (Principles of Teaching), Child Psychology, Public Speaking, Applied Oral Hygiene, Sociology and Nutrition. Other related subjects may be elected from those offered by the College. The full course will cover two summer sessions. College credits are given. The staff of instructors, principally from the State Education and State Health Departments, University of Buffalo and State Teachers College, have been chosen for their practical field experience.

This course has been approved by the State Education Department as meeting the requirement for certification as a Dental Hygiene Teacher.

Tuition is free to residents of New York State, and a nominal charge is made to non-residents. Classes are held five days a week from July 2nd to August 10th.

For registration and a detailed announcement of the course, address

DR. S. R. MEAKER,
State Education Department,
Albany, N. Y.

THE MONTANA STATE BOARD OF DENTAL EXAMINERS will hold its next meeting at Helena, Montana, July 9-13, 1928.

For further information, address

T. P. REGAN, *Secretary*,
Helena, Montana.

THE NORTH DAKOTA STATE BOARD OF DENTAL EXAMINERS will hold its next meeting at the Gardner Hotel, Fargo, N. D., July 10-13, 1928.

Applications for examination must be in the hands of the Secretary by July 1st.

GILBERT MOSKAU, *Secretary*,
Grand Forks, N. D.

THE AMERICAN SOCIETY OF ORAL SURGEONS AND EXODONTISTS will hold its tenth annual meeting at the Radisson Hotel, Minneapolis, Minnesota, August 17-18, 1928.

HARRY BEAR, *Secretary*,
410 Professional Bldg., Richmond, Va.

THE AMERICAN DENTAL ASSOCIATION will hold its Seventieth Annual Session in Minneapolis, Minnesota, August 20-24, 1928.

THE FEDERATION OF AMERICAN WOMEN DENTISTS will hold its annual meeting in Minneapolis, Minnesota, on Monday, August 20, 1928, at 2 P. M. General headquarters will be at Hotel Plaza.

HAIDEE WEEKS, *Chairman Publicity Committee*,
1207 Maison Blanche Bldg., New Orleans, La.

THE AMERICAN DENTAL ASSISTANTS ASSOCIATION will hold its fourth annual meeting in Minneapolis, Minn., August 21-23, 1928. General headquarters will be at the Leamington Hotel.

JULIETTE A. SOUTHARD, *President*,
174 West 96th St., New York, N. Y.
RUTH F. ROGERS, *Secretary*,
Suite 1760, 16 North Wabash Ave., Chicago, Ill.

THE FIRST DISTRICT DENTAL SOCIETY OF THE STATE OF NEW YORK will hold its fourth annual December Meeting for Better Dentistry at the Hotel Pennsylavnia, New York, December 3-6, 1928. The committee is preparing a program which will be both interesting and of high scientific value. Essays and clinics will be held and progressive teaching clinics along various lines will be an important feature. The topic discussions will again occupy an important place in the program.

A manufacturers' exhibit will be held in the Hotel simultaneously with this meeting.

JOHN T. HANKS, *Chairman*,
17 Park Avenue, New York, N. Y.